

Assessment of the Clinical Features Associated with Premenstrual Tension Syndrome among Kirkuk Technical Institute Students with Possible Preventive Strategies

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Abstract

Background: Menstruation is regarded as a very critical period in female life and a wide range of symptoms may be occur before the onset of the cycle and later on it starts to remove or absent gradually. **Objective:** The study aimed to assess the clinical features associated with the pre- menstrual tension syndrome among female students and to participate a suggested preventive strategies. **Methods:** A descriptive cross-sectional study was carried out in Kirkuk Technical Institute during the period from 1st February/ 2015 till the end of May /2015 after receiving the administrative agreement and a verbal consent was taken from each student before establishing the study. The sample was collected randomly and 200 female students were collected from two stages (First and second) and from different scientific departments. A special questionnaire form has been prepared by the investigator included five main dimensions designed for study purpose. **Results:** Show that most of the study female students were from second stage (75.5%), aged between 18-20 years (82.5%) and majority of them started menarche period between the age 12-14 years (50.0%), with regular menstrual cycle (80.5%). More than two third of female students complaining from clinical features of pre- menstrual tension syndrome (75.6%, 86.1%). **Conclusion:** Female students from both stages are treated and managed their symptoms before and during the menstruation cycle domestically without the need for doctor consultation.

Keywords: Assessment, features, Kirkuk, premenstrual tension, students

INTRODUCTION

Menstruation is regarded as a normal event in most of females' life through their reproductive age.^[1] Some of them affected by problems happened during menstruation, and one of the most common problems is premenstrual tension syndrome (PMTS) which was first indicated by Frank and Harney in 1931, and they explained that hormonal disturbances are the main causes of it.^[2]

Premenstrual syndrome (PMS) usually defined as a combination of psychological, emotional, physical, and alteration in mood which occurs mainly after ovulation process.^[3,4] Others described PMS as the repetition of physical and psychological symptoms that happened during luteal phase of the menstrual cycle and proceeded to the follicular phase of it.^[5,6]

Many inclusion criteria in the PMTS documented by the American society of Gynecologist and Obstetricians with the assistance of American Psychiatric Society and these criteria need

medical treatment because of the neuropsychiatric features which occur during the cycle; therefore, they reported that PMTS is happened when these symptoms present in two or more cycles.^[7,8]

PMTS said when three out of 36 indicated symptoms occur over two or more cycles,^[9] and these symptoms can be classified into two categories which are (a) affective symptoms such as depression, crying, anxiety, and irritability with confusion; (b) somatic symptoms due to physical alteration such as sleep disturbance, appetite changes, and generalized body weakness with fatigue and swelling of extremities.^[10,11]

Majority of women complaining of premenstrual tension symptoms of physical or psychological nature and lead to

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How to cite this article: Jasim WM. Assessment of the clinical features associated with premenstrual tension syndrome among Kirkuk Technical Institute students with possible preventive strategies. Med J Babylon 2018;15:69-73.

Access this article online

Quick Response Code:



Website:
www.medjbabylon.org

DOI:
10.4103/MJBL.MJBL_17_18

limitation of functional duties throughout the daytime and these clinical features are related to endocrinal disturbance such as progesterone deficiency, prolactin excess, thyroid hypofunction, or may be due to aging process early as 35 years.^[12]

PMTS morbidity contributed to many reasons, and about 3% of these symptoms destroy their normal life if it persists and recurrent.^[13] PMTS can be diagnosed by the standard criteria adjusted by the American Association of Obstetrics and Gynecology which are^[14] a standardized instrument used to measure the intensity and severity of PMTS symptoms from the day 5–10 and compared with the day 6 before the next period started, and this procedure was repeated for at least 2 consecutive cycles to determine the exact changes in it.

The study aimed to assess the clinical features associated with the PMTS syndrome among female students in Kirkuk Technical Institute and to participate suggested management strategies.

MATERIALS AND METHODS

A administrative agreement

A descriptive cross-sectional study was done after receiving the official permission from the Kirkuk Technical Institute before establishing the study.

Study setting

The study was carried out in Kirkuk Technical Institute.

Study sample and sampling method

Two hundred female students from both stages (1st and 2nd) were selected randomly from different scientific departments after taken a verbal consent from them before participating in the study, and a full description of the study aim was done by the investigator.

Study period

The data were collected by direct interviewing with the study students during the period from 1st February 1, 2015, to the end of May 2015.

Data collection tool

A special questionnaire form has been prepared by the investigator utilizing available related literature which includes the following main items:

- Part 1: Demographic characteristics including age, stage, dept., and marital status, and menstrual history
- Part 2: Students' distribution according to the presences of PMTS
- Part 3: Students' distribution according to the affectivity of PMTS on their daily work function.
- Part 4: Students' distribution regarding the type of clinical features of PMTS
- Part 5: Students' distribution according to the possible management of PMTS.

Reliability of the questionnaire form

The questionnaire was presented to (2) experts in the gynecological department, and (2) statistical experts.

The reliability of the questionnaire was 70%.

Statistical analysis of data

The data were statistically analyzed by descriptive statistics for questions with yes and no answer using number and percent. The statistical test Chi-square was used, and *P* value was considered statistically significant at the level of ≤ 0.05 .

RESULTS

Table 1 shows that most of the female students are from second stage (75.5%), aged between 18–20 years (82.5%), unmarried. (84.0%), and from administrative department (45.5%).

Table 2 shows that majority of the study female students were started menarche period between the age 12–14 years (50.0%), with regular menstrual cycle (80.5%), and the period lasts for about 5–6 days (44.0%).

Table 3 indicated that 24.4% of first-stage students and 13.9% from second stage were not complaining from any symptoms, while more than two-third of female students from both stages (1st and 2nd) complaining from features of premenstrual tension

Table 1: Sociodemographic characteristics of the study students

Sociodemographic parameter	Study students (n=200), n (%)
Age group (years)	
<18	22 (11.0)
18-20	165 (82.5)
>20	13 (6.5)
Stage	
First	49 (24.5)
Second	151 (75.5)
Scientific departments	
Technical	66 (33.0)
Administrative	91 (45.5)
Health	43 (21.5)
Marital status	
Married	32 (16.0)
Unmarried	168 (84.0)

Table 2: Frequency distribution of study sample according to their menstrual history

Menstrual period parameter	Study students (n=200), n (%)
Menarche (years)	
<12	37 (18.5)
12-14	101 (50.0)
>14	62 (31.0)
Menstrual cycle	
Regular	161 (80.5)
Irregular	39 (19.5)
Menstrual period (days)	
3-4	51 (25.5)
5-6	88 (44.0)
>7	61 (30.5)

Table 3: Premenstrual symptoms distribution in the study sample

Presences of premenstrual symptoms	Study students (n=200)		P*
	First stage (n=49), n (%)	Second stage (n=151), n (%)	
Normal period (negative symptoms)	12 (24.4)	21 (13.9)	0.083
Abnormal period with positive symptoms	37 (75.6)	130 (86.1)	
Total	49	151	

* $\chi^2=3.007$, df=1**Table 4: The effect of premenstrual tension on their daily activity**

Affectivity of premenstrual tension on daily activity	Study students (n=167)		P*
	First stage (n=37), n (%)	Second stage (n=130), n (%)	
Not affecting the daily activity	5 (13.5)	27 (20.7)	0.322
Affecting the daily activity	32 (86.5)	103 (79.3)	
Total	37 (100.0)	130 (100.0)	

* $\chi^2=0.979$, df=1

during their cycle (75.6% and 86.1%), respectively, with $P = 0.083$.

Table 4 shows that 86.5% from first-stage and 79.3% from second-stage students affected their daily work by premenstrual symptoms with $P = 0.322$.

Table 5 presents that 45.9% from first-stage students suffered from breast tenderness during their menstrual period in comparison to 25.4% from second-stage students with $P = 0.016$, whereas 43.8% from second-stage students complained from mood alteration during their menses.

On the other hand, abdominal pain and tenderness constitute the least percent in both (1st and 2nd) stage (5.5% and 6.9%), respectively, with $P = 0.743$.

Table 6 shows that 88.7% from study students from both stages managed their clinical features with domestic therapy, whereas 11.3% of them treated with medical therapy with $P = 0.026$.

DISCUSSION

The current study shows that 50.0% of study students were started menarche period between the age 12 and 14 years and 85.5% of them having a regular menstrual cycle.

A study was conducted by Tibin *et al.*^[15] among nursing students of reputed nursing College in Thrissur to determine the association between selected some sociodemographic factors with the occurrence of PMS. They found that out of sixty study students, 75% having mild symptoms, 15% having moderate symptoms, and the other remaining 10% having severe form of the syndrome. They also concluded in their study that PMS is a growing illness among teenage girls through adolescent period and many efforts should be prepared to increase the awareness of parents about this critical period.

Another study was done by Borenstein *et al.*^[16] included women aged 18–45 years enrolled in a medical group in Southern California to assess the differences of PMS symptom scores and

Table 5: Types of premenstrual symptoms distribution in a study group

Types of premenstrual symptoms	Study students (n=167)		P*
	First stage (n=37), n (%)	Second stage (n=130), n (%)	
Mood alteration	7 (18.9)	57 (43.8)	0.006
Breast tenderness	17 (45.9)	33 (25.4)	0.016
Headache	8 (21.6)	20 (15.4)	0.370
Depression and anxiety	3 (8.1)	11 (8.5)	0.945
Abdominal pain	2 (5.5)	9 (6.9)	0.743
Total	37 (100.0)	130 (100.0)	

* χ^2 test, was used

the outcomes of health in them and they reported that majority of them having irregular period. They mentioned that there was 43% difference in premenstrual symptoms scores which is related to the health care burden that was statistically significant, furthermore they recommended the possible strategies to prevent the occurrence of PMS in the future.

Regarding the presence of premenstrual symptoms, the study shows that more than two-third of the female students having positive symptoms. A similar study was performed by Bakhshani *et al.*^[17] in Zahedan University, Iran, among 300 female students aged 18–27 years to determine the prevalence of PMS. They presented that 84% of them complained from feeling of tiredness and fatigue during the menstrual period, and 77.3% of them suffered from depression and mood disturbance, and the severity of these symptoms was statistically significant higher among the young age group of 18–20 years in comparison to women aged 21–27 years.

Concerning the affectivity of PMTS with their daily performance, the present study mentioned that most of female students complained of clinical features lead to defect in working performance. Minakshi *et al.*^[18] prepared a study among 75 schools to study the problems occurring throughout the menstrual period and assessing the characteristic features

Table 6: Lines of treatment used by study group

Management of PMS	Study students (n=167)		Total, n (%)	P*
	First stage (n=37), n (%)	Second stage (n=130), n (%)		
Take medication	8 (21.7)	11 (8.5)	19 (11.3)	0.026
Domestic treatment like hot drinks, rest	29 (78.3)	119 (91.5)	148 (88.7)	
Total	37 (100.0)	130 (100.0)		

* $\chi^2=4.947$, df=1. PMS: Premenstrual syndrome

associated with it. They mentioned in their study that premenstrual dysphoric disturbance among the studied sample of school students was 12.22% and all of the girls present a working defect during their menstruation cycle, and there was an obvious reduction in the quality life and less work productivity during the period.

Another study was adapted by Kahyaoglu Sut *et al.*^[19] among 134 Turkish nurses to determine the effect of PMS on their work and its association with the life quality. They found that overall scores of PMS are negatively related with the work activity ($r=0.341$; $P<0.001$); furthermore, they referred to that the other subscales were ranged from -0.207 to -0.402 with the work stress is quietly significant high among menstruated nurses with PMS than those without these symptoms.

Concerning the presence of symptoms during menstruation, the exiting study resulted that students from first-stage suffered from breast tenderness during their menstrual period in comparison to second-stage students complained from mood alteration.

Thikra and Nisreen^[20] conducted a study among medical staff and students in Tikrit University to describe the epidemiological (age, body mass index, marital status, and family history) with the clinical character of PMTS among them and they indicated that 33.3% of students sample complaining from irritability, depression, anxiety, dyshonia, headache and breast tenderness which were started before the cycle begins.

They recommended in their study that future strategies can be provided for early detection of PMS and treatment.

Another study was conducted by Derman *et al.*^[21] among 100 women (50 women from young age and 50 women from middle age) in Medical Institute and Research Center, India, to assess the prevalence of PMS and management approaches. They mentioned that 42% of study women suffered from positive symptoms regularly during their menses, while 58% from them occasionally complained from backache, leg pain, breast tenderness, and fatigue.

Further study was done by Al-Hamzawi and Arafat^[22] in AL-Hakeem General Hospital in Najaf, Iraq, during the period from August to the end of December 2009, to determine the effect of PMS with the daily activity and social life and they found that there was a high percentage of study women who complain from major severity of physical symptoms, 59.3%; therefore, these physical symptoms may play an important role in the daily activity and duty performance.

For the management of PMTS, the current study revealed that most of study female students managed their symptoms domestically without the need for doctor consultation.

A similar study was done by Brahmabhatt *et al.*^[23] in India among young- and middle-aged group women to determine their perception about PMS and the management strategies. They reported that young aged women complained from acne during menstrual cycle (58%), whereas middle-aged women suffered from mood disturbance (48%) and both groups of the study women managed their clinical features during the period and before it with home remedy treatment.

Furthermore, similar results were obtained by a study which was prepared by Tabassum *et al.*^[24] in Pakistan among young college girls to conclude the severity of PMS and its frequency during it.

CONCLUSIONS

Majority of female students regarded PMTS as normal physiological phenomena happened during their reproductive life and do not need any medical treatment or doctor consultation. PMTS is of great importance because it extents among the adolescent girls and remains steady with the growing period till menopausal period begins. Furthermore, students show a quite defect in their daily performance during their period before the cycle started. The frequent clinical features complained from it were breast tenderness and mood disturbance.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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