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Evaluating the Prevalence of Premenstrual Syndrome among Female Undergraduate Students of School of Nursing and Midwifery, Hamadan University of Medical Sciences in Iran.

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ABSTRACT

Premenstrual syndrome is one of the most common problems in women that impaired academic performance, professional and interpersonal relationships in them.This study aimed to investigate the prevalence of premenstrual syndrome in female undergraduate students in School of Nursing and Midwifery, Hamadan university of medical sciences. This study was a descriptive-analytically study. PMS symptoms questionnaire was completed by 356 female students in school of nursing and midwifery of Hamadan. using software (SPSS version 13), the dispersion index test and chi-square test analysis of the information is done. A total of 160 students had symptoms of premenstrual syndrome. The prevalence of PMS was 44.7%. The age of 27.7 percent of them was less than 20 years, 54.1 percent between 20-24 years, 18.2 percent in the age group 25 years and more. The duration of menstrual cycle in 27 percent of them was less than 30 days and 73% was 30 days and more. Average 43.4 percent of people with premenstrual syndrome were studying in midwifery and 53.3 percent in nursing. PMS frequency (45.55%) in midwifery students was more in the early years of education (semester1-2) than other semesters and in nursing students in the third year (semester 5-6) of education. The PMS prevalence in girls is relatively high. Therefore supportive and therapeutic solutions to reduce complications and severity of symptoms are necessary.

Keywords: premenstrual, midwifery, nursing

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INTRODUCTION

Menstrual cycle is the most important sign for the performance of the reproductive system in female adults. But, this phenomenon is sometimes accompanied by some signs and symptoms which are annoying and cause physical and mental problems in women(1). Premenstrual syndrome is one of the common problems among women at the reproductive age, which is emerged by a series of physical and mental problems in weak, moderate, and severe forms(2). Premenstrual syndrome starts (6-12) days before monthly bleeding and continues for 2 days or at most 4days after the start of bleeding(3). In general, there are 150 symptoms which are mostly identified as the symptoms of premenstrual syndrome and include psychological symptoms such as weakness and fatigue, irritability, petulancy, variable mood, depression, etc. Physical symptoms such as abdominal bloating, backache, breast sensitivity, etc. occur from mild to severe degrees depending on the intensity of the symptoms of the wide disease range(4). All the age groups are affected by this syndrome, but the most prevalent age is 25-45 years old. The prevalence of this syndrome is different considering factors such as culture, attitude, age, exercise, nutrition, and underlying diseases(1). Common physical and emotional symptoms in this syndrome along with adolescence tensions usually cause a conflict with others. Additionally, considering the lack of information of others about the underlying cause of such behavioral changes, these reactions are considered negative and, consequently, lead to physical and behavioral conflicts(4). Classic symptoms of premenstrual syndrome often include tension, irritability, anger, depression, lack of self-control, food craving, swelling, breast pain, and headache(5). About 30-50 percent of women at the reproductive age experience some degrees of premenstrual syndrome(6). More than 80 percent of women experience (7) . One of the symptoms of this syndrome and about 5-8 percent of women suffer from severe premenstrual syndrome and fulfill premenstrual dysphoric disorder (PMDD) criteria(8). Teska et al (2006) reported the prevalence of premenstrual syndrome in 33% research units(9).Qiao et al(2012) mentioned the prevalence of premenstrual syndrome in 21% of their research population(9). According to Tenkir et al.(2003)'s work on students of Jimma University, Ethiopia, 99% of students were suffering from at least one of the symptoms of premenstrual syndrome(10).Premenstrual syndrome has negative effects not only on people themselves, but also on their families; in the severe cases and as a disease, they can cause changes in the behavior of women. Such behavioral changes might affect the interactions between women and their family members and cause inconsistency among spouses or misbehavior with children(11).The most important factors affecting the prevalence of premenstrual syndrome include age, smoking, alcohol and caffeine consumption, dietary patterns, oral contraceptive pills, exercising habits, menstrual and reproductive background, sexual abuse background, history of premenstrual syndrome, marital status, attitudes to menstruation, occupation, multiple pregnancies, genetics, educational level, socio- cultural factors, religion and performing practices, menstrual bleeding period, menstrual period, painful menstruation, and mental pressures(9).In terms of prevalence, in 95% percent of women, symptoms with different intensities have been reported. But, only in 5%percent of the cases, the intensity can cause serious disorders in performance(12). More than 75%percent of women at the reproductive age have mentioned some of the periodic symptoms and changes caused by this syndrome(13). In a study on 427 Austrian students, the efficacy of menstrual cycle on students' academic achievement was evaluated(1). Most of the suicides, work and school absenteeism, and working mistakes by women occur during the period of premenstrual syndrome. In different studies, various criteria have been used to measure premenstrual syndrome and different prevalence rates and intensities have been mentioned for these symptoms. In a study performed on 256 women, in order to measure the symptoms, DAM-IV criteria were used and the most common mentioned symptoms were anger, irritability, anxiety, and mood swings(14).Premenstrual syndrome has great effects not only on people themselves, but also on their families and, in severe cases and as a disease(11)., it can cause changes in personal issues and behaviors such as conflict with spouse and misbehavior with children. This syndrome also increases unfavorable academic consequences such as decreased academic performance of students and social outcomes such as murder, crime, and suicide(14).The reason for this syndrome has not been evident yet(15). Numerous factors such as hormonal fluctuations of estrogen and progesterone, neuroendocrine disorders, variety of estrogen receptors, synthesis of prostaglandins, and environmental factors such as stress and alcohol consumption have been discussed(16). The syndrome is treated in order to improve the symptoms and restore proper functioning of the body and often requires a combination of lifestyle modification and drug therapy(17). Although this problem has been well studied among adults, it has been recently diagnosed in adolescents(18). Since premenstrual symptoms have a wide range with various intensities and involve a large number of women and girls and also women at the reproductive age form a large percentage of the country's population, which might have irreversible effects on their quality of life and decrease their efficiency, therefore, this study aimed to evaluate the prevalence of premenstrual syndrome among female students.

METHOD

In this descriptive-analytical study, statistical population was all the qualified female undergraduate students at Faculty of Nursing and Midwifery, (356) Number of Hamadan University of Medical Sciences. Sampling was performed using census method between August and October 2015 among the students at this faculty. The inclusion criteria were as follows: suffering from mild to severe premenstrual syndrome with the score (0-3) based on the questionnaire, being single, having regular menstrual periods every (28-35) days, and lacking physical and mental diseases with medical approval. Then, the subjects with inclusion criteria who were consent to participate in the study were given the premenstrual syndrome screening questionnaire. This questionnaire has 19 questions and aims to examine the symptoms of premenstrual syndrome 14 and its impact on people's life. It is composed of two parts: the first part contains mood, physical, and behavioral symptoms and the second part that measures the effect of these symptoms on the individual's life has 5 questions). For each question, 4the criteria of none, mild, moderate, and severe were mentioned with the scores from zero to3Also, to diagnose (moderate or severe degrees, the following three conditions should be satisfied at the same time:

1. At least one of options 1-4 should be moderate or severe;

2. In addition to the previous case, in options 1 to 14 at least 4 cases should be moderate or severe; 3.In the section on the effect of symptoms on life (5 final options),one case should be moderate or severe. In previous studies, the reliability of this questionnaire (internal consistency) has been calculated using Cronbach's alpha. I the parts of symptoms, 90/0، effect of symptoms on life91%, and overall and 0.93 were respectively obtained. Also, the intra-cluster correlation between the two parts was 0.8 In terms of validity in which two criteria of content validity ratio (CVR) and content validity index (CVI) were used, the values were obtained as 0.7 and 0.8respectively(19).

FINDINGS

This descriptive-analytical study was performed using census method on 356 qualified subjects. The number of 160 samples with premenstrual syndrome was identified. PMS prevalence was (44.7) percent (Table1) and (27.7) percent of the subjects was in the age group of less than 20, (54.1) percent in the age group of (20-24), and 18.1 percent in the age group of 25 or higher (Table 2). According to this table there is a significant relationship between age groups and pms ($P < 0.05$).

Regarding the intervals of menstrual cycle, 27 percent of the subjects were in the intervals of less than 30 days and 73 percent had the intervals of 30 or more days (Table 3). According to this table and PMS significant relationship between the duration of the cycle.

About 43.4 percent of the subjects with premenstrual syndrome were majoring in the field of midwifery and 53.3 percent were studying nursing (Table 4). According to this table, there is no connection between field of Study and PMS.

PMS frequency in the field of midwifery in semester (1-2) was higher than other semesters (around 45.55percent). In the field of nursing in semesters 5-6, the frequency was 64.7percent higher than other semesters (Tables 5).

DISCUSSION

According to the results of the present study, the prevalence of PMS was 44.7 percent. Comparison of the results of premenstrual syndrome in the present study with those of domestic and foreign studies showed obvious differences. In global studies, the prevalence of premenstrual syndrome has been reported quite differently. According to the results of this study, PMS value in the age group of 20-24 was 54.1 percent. In the study performed by Antai et al. at University of Calabar, Nigeria, on 200 students, the prevalence of PMS was 85.5. The age group of these students was 16-31 with the mean age of 24.3(20) . In another study on 266 female students in Thailand aging 16-35 years old, the prevalence of premenstrual syndrome was reported to be more than 98 percent(21). In the study by Talaie et al. on the students in Mashhad, among 101subjects, 48.1 had the PMS standards and mean age of 22,45± 2.35 Derman et al. showed that 64.1of the female

students(10-17) were suffering from premenstrual syndrome(22). Akabat et al. reported the prevalence of PMS 116 among medical students with the mean age of 22.45±5.13) at Thamar University, Yemen (%24.13)(16). Although the above results showed relatively different prevalence of premenstrual syndrome in different studies, this issue could represent that the difference in the syndrome intensity might be caused by personal differences and uniqueness of the subjects' responses and perceptions about the symptoms and signs of premenstrual syndrome(23).The present study also showed that, among the subjects with the cycle intervals of 30 days or more, the prevalence of PMS was 73 percent higher. In, Kiani et al.'s study on students majoring at universities in Tehran demonstrated the relationship of the intervals between menstrual cycle and premenstrual syndrome, and the subjects with the intervals of more than 35 days between the cycles had higher possibility of experiencing PMS(24). Ramezani et al (2011). studied the girls at the reproductive age in Kermanshah, Qazvin, Golestan, and Hormozgan provinces and found no significant relationship between menstrual cycle pattern and premenstrual syndrome; the difference in the prevalence of PMS in various studies could be due to their different definitions for PMS ($p>0.05$).PMS has been defined as the presence of a large number of symptoms in 7-10last days of menstrual cycle that occurs regularly in each ovulation cycle and is severe enough to disrupt the lives of women(16). In the present study, about 43.4 percent of the subjects with premenstrual syndrome were majoring in the field of midwifery and 53.3percent were studying nursery. Shakeri et al. investigated the female students of Hamadan University of Medical Sciences in 2011 and found a significant relationship between the field of study and premenstrual syndrome; ($p<0.05$ thus70 percent of nursing students and 50 percent of physical education students were suffering from this syndrome(25).The difference in the studies could be due to the effective factors such as race, ethnicity, and cultural differences in the expression of signs in other societies. The difference in the measurement tools of the symptoms could also lead to the statistical difference. In the present study, there was a relationship between academic semester and PMS; it was higher in semester 1-2 of midwifery and semester 5-6 of nursing. Azghali et al.(2008) conducted a study on the female students of Shahid Beheshti University, represented a significant relationship between academic semester and intensity of premenstrual syndrome, and showed the prevalence of this syndrome was more among senior students($p<0.05$)(26).Also, the frequency of this syndrome in the present study was higher among those majoring for a Bachelor's degree. It seems that one of the main reasons reported for the differences in the prevalence and intensity of premenstrual syndrome in various studies is due to using different criteria to measure the syndrome, difference of various studies in terms of age, cultural and geographical status, research environment, research methodology, difference in conditions of selecting the research units, different attitudes of women in various societies about menstruation, whether the study was retrospective or prospective, and awareness of subjects to participate in the study. Moreover, it can be concluded that, due to the complete awareness among the students of medical sciences about this syndrome that could state its symptoms with high accuracy without showing any particular behavior, their information about physiological characteristics of women's menstrual cycle and its hormonal changes, and having less negative attitude toward menstruation, their hatred of premenstrual symptoms is at a less degree and premenstrual disorders are considered normal menstrual changes(27). Therefore, health specialists should consider the physical signs and symptoms of women with PMS, pay more attention to the signs and mood-behavioral symptoms, and help them with appropriate counseling and medical interventions in case. Nevertheless, more studies with greater sample size seem to be necessary in this regard.

CONCLUSION

PMS is one of the common problems for women at the reproductive age and a large percentage of them suffer from its physical and mental symptoms. Since this disease might cause adverse effects on the quality of life of women, it is necessary to consider supportive and therapeutic solutions to reduce the intensity of its symptoms and the adverse complications.

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Table 1: Frequency of premenstrual syndrome in female students in the School of Nursing and Midwifery

PMS		Frequency	precent
All students	yes	159	44.7
	no	197	55.3
total		356	100
Midwifery	yes	69	39.7
	no	105	60.3
nursing	yes	90	49.5
	no	92	50.5
total		356	100

Table 2: Relationship between PMS and age groups

pms	age						total		statistical test
	<20		20-24		25≥				
yes	number	percent	number	percent	number	percent	number	percent	p=.011 x^2 =9.01 df=2
	44	27.7	86	54.1	29	18.2	159	44.7	
no	30	15.2	117	59.4	50	25.4	197	55.3	
total							356	100	

Table3: Relationship between PMS and menstrual cycle intervals

PMS	interval						statistical test
	<30		≥30		total		
yes	number	percent	number	percent	number	percent	p=0.036 x^2 =4.41 df=1
	43	27.	116	73	159	50	
no	74	37.6	123	62.4	197	50	
total					356	100	

Table 4: Relationship between PMS and field of study.

field	PMS						statistical test
	yes		no		total		
Midwifery	number	percent	number	percent	number	percent	df =1 p=0.063 x^2=3.45
	69	43.4	105	53.3	174	48.9	
nursing	90	56.6	92	46.7	182	51.1	
total					356	100	

Table 5: Relationship between PMS and semesters of education.

Nursing	term	PMS						statistical test
		yes		no		total		
		number	percent	number	percent	number	percent	p=0.044 df=7 x^2 =14.45
	1-2	21	44.7	26	55.3	47	100	
	3-4	21	47.05	23	52.95	44	100	
	5-6	33	64.7	19	35.3	52	100	
	7-8	15	42.1	24	57.9	39	100	
Midwifery	1-2	24	45.55	22	54.45	46	100	p=0.004 df=5 x^2 = 17.52
	3-4	18	33.	30	67	48	100	
	5-7	27	32.9	53	67.1	80	100	
	Sum of k					356	100	

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