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Research Article

Assess the Premenstrual Physiological Symptoms, Academic Performance among Female Medical Student in Hafr Al Batin, University

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Abstract

Premenstrual time is a critical time in the life of females. The symptoms that occur in women during this time, which can adversely affect their social interaction, educational performance and emotional well-being. The study aimed to assess of premenstrual symptoms and academic performance among female medical student. Sampling: stratified sampling technique used to select 120 participants. The tools contain four sections to assess basic data, menstrual history, premenstrual physical symptoms and academic performance during premenstrual time. Results: Majority of the adolescent girls experienced associated somatic symptoms during premenstrual period like pains in abdomen and back, headache and breast tenderness. Regarding academic performance, the participant was reported changes during by premenstrual phases in several ways specially learning motivation and abilities and behavioral performance in class.

Keywords: Academic performance; Premenstrual syndrome; University student

Introduction

Premenstrual syndrome (PMS) is characterized by the presence of both physical and behavioral symptoms during the second half of the menstrual cycle and interfere with different life aspects in the woman's life [1]. Women with PMS experience a wide variety of cyclic and recurrent physical, emotional, behavioral, and cognitive symptoms that begin in the luteal phase (second half) of the menstrual cycle and resolve shortly after the onset of menses (the follicular phase). However, the main compliance includes behavioral symptoms; such as depression, irritability, and anxiety; and physical complains; such as breast pain, bloating and swelling, and headache. The symptoms are started and the recurrent during the end of the luteal phase of the menstrual cycle with a symptom-free period shortly after menses has begun, typically when the menstrual flow has ended [2-3]. The American College of Obstetricians and Gynecologists (ACOG) defined PMS as a clinical condition characterized by the cyclic presence of physical and emotional symptoms unrelated to any organic disease that appear during the 5 days before menses in each of the three prior menstrual cycles and disappear within 4 days of the onset of menses, without recurrence until at least cycle day1[4].

Diminished academic performance is one of the main complaints attributed to menstrual-cycle problems. The menstrual period has a notable role on the academic performance of students Women with heavy and painful menstrual periods have more problems affecting their academic and social lives. Diminished academic performance is one of the main complaints attributed to menstrual-cycle problems In support of HI, the vast majority of significant correlations and associated standardized regression coefficients were negative, pointing to the generally adverse effects of menstrual- cycle moods and symptoms on academic performance [5,6]. Many adolescent girls experience various premenstrual physical, emotional or behavioral changes, which at times reach such levels of severity that may have substantial social impact upon herself, her associates, her work and academic performance. So, the study was done to assess the premenstrual

symptoms and academic performance among adolescent girls [7,8].

Materials and Methods

Research Designs

This was a Cross-sectional study research design.

Sampling

A stratified sample of 120 students has been selected and participated. The inclusion criteria were, the students who are not using contraceptive methods, having no menstrual disorders and willing to participate in this study.

Sitting

The study was conducted at college of applied medical sciences. The researcher will also reassure the subjects that their privacy will be protected, and any obtained information will be strictly confidential.

Part 1: Basic data about participants, including Age, academic year, residence, marital status …

Part 2: Menstrual history: Including: Age of menarche, duration, interval, frequency of menstruation …….

Part 3: Premenstrual Symptoms Screening Tool (PSST) [9]. The subjects were asked to complete a standardized health questionnaire, described below, and underwent a brief face-to-face interview was rated according to a 4-point Likert scale (0 = absent, 1 = mild, 2 = moderate, and 3 = severe). A positive screen for PMS was rated as moderate to severe, the presence of at least one of the first four symptoms rated as moderate or severe, and at least one item of the second table rated as moderate or severe.

Part 4: Academic performance scale: Academic stress and Academic demand scale - It consisted statement 20 statement (range 0 to 80). To account for time spent studying, each day participants recorded hours and minutes spent as well the distress caused by studying on a scale of 0- 4 (0=no distress and 10-extreme or the most distress).

Aim of the Study

1. Assess the pre- menstrual physiological symptoms.
2. Determine the academic achievement during pre-menstrual time.

Methods

Permission: an official letter from the Faculty of Nursing was directed to the director of the responsible authorities of the study settings for earning his consent before collecting the data after explicating the study aim.

Tools Validity and Reliability: Tool it was developed by the researchers after reviewing relevant and recent literature. Content validity was assured by a jury of 5 experts in the field of obstetric and pediatric nursing.

Pilot Study: A pilot study was conducted on 10% of the students (who were excluded from the study sample) to test the clarity, applicability of the study tools, identification of a suitable place for interviewing women, and to detect any possible obstacles that might face the researchers.

Ethical Considerations

Permission to conduct the study was obtained. Each one was informed about the purpose and benefits of the study in the first part before starting the questionnaire, where every one can't be starting the questionnaire without consent to participate in data collection in the current study. The student were assured that all data was used for research purpose only and each one was informed of the rights to refuse participation in the study or withdraw at any time before completing the questionnaire with no consequences.

Statistical Analysis

Computerized data entry and Statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version 22. Descriptive and analytical statistics were used such as number, percentage, mean and standard deviation.

Results

(Table 1) show that more than two fifths (41.7%) of the participants at the age of 18 to 20 years. As much as 47.5% of them were graduated in second your in college. The majority (75.8%) of them were single and lives within a nuclear family (70.8%), respectively.

	No.	%
1- Age		
less than 18	20	16.70%
18-20	50	41.70%
21-23	45	37.50%
more than 23	5	4.20%
2- academic level		
Preparatory (First year	37	30.80%
Second year	57	47.50%
Third year	18	15.00%
Four year	8	6.70%
3- Residence		
Urban	79	65.80%
rural	41	34.20%
4- Family type		
nuclei	85	70.80%
extended	35	29.20%
5- Marital status		
single	91	75.80%
married	29	24.20%

Table 1: Distribution of the study participant according to Social- demographic data.

According to (Table 2) more than one-half (52.5%) of the student's attained menarche before age of 13 years. 72.5% of them had regular rhythm. More than more than one half (57.5% & 52.5%) of them had reported bleeding for less than 5 day and change per day less than 3 soaked pad, respectively. more than three quartier (76.7%) of the participant had background knowledge about menstruation . the sours of this information usually received either from mother (43.33%) or their finders (30.83%). While only 4.17% of them had reported the medical staff, doctor or nurse is source for information.

Menstrual history	NO.	%
1- Age of menarche		
less than 13	63	52.5
more than 13	57	47.5
2 - rhythm		
regular	87	72.5
irregular	33	27.5
3- interval		

less than28	64	53.3
More than 28	56	46.7
4- duration		
less than 5 day	69	57.5
more than 5	51	42.5
5 - no, of pad		
less than 3	63	52.5
more than 3	57	47.5
6- Knowledge about menstruation cycle and PMS		
yes	92	76.7
no	28	23.3
7- Sources of information about menstruation cycle and PMS		
Mother	52	43.33
Friends	37	30.83
Old sister	15	12.5
Mass media and book	11	9.77
Medical staff	5	4.17

Table 2: Distribution of the study participants according to menstrual history.

The total is not excluded. (Table 3) illustrate that, Majority (87.5%) of the adolescent girls experienced associated symptoms during premenstrual period. More than one half (51.42) had reported pain experience. 42.95% of them reported fatigue during this time, and49>95% of them suffering from breast tenderness. Regarding the measurement to relieve symptoms 49.95% of the participants use traditional measurement about this 44.2% of them take medication and 24.76%of them ask doctors about her condition.

Physiological premenstrual symptoms.	**No.**	**%**
1- present of symptoms		
yes	105	87.5
No	15	12.5
2- If yes list this symptoms	N=105	
Pains (abdominal - back - Headache)	54	51.42
Fatigue	52	49.52
Breast tenderness	43	40.95
Nausea & Vomiting	9	8.6
Irritability	6	5.71
3- This symptoms affect daily life activity	N=105	

Positive	47	44.8
Negative	68	55.2
4- *Ask helping to relief symptoms	N=102	
Use herbal , bed rest	45	42.85%
Taking medications for relieving pain	31	29.52%
Visiting physicians because of PMS pain	26	24.76%

Table 3: Distribution of the participant according to physiological premenstrual symptoms.

(Table 4) illustrate that 46.7 of the study subject had reported moderate affection of the PMS on the work efficiency. 33.3 % of them reported severe interference with relation with colleague and family. More than one half (50% & 58.3%) of them reported interference with lucatur and academic performance.

	Absent		**Mild**		**Moderate**		**Severe**	
	No.	%	No.	%	No.	%	No.	%
Have any symptoms listed above interfered with the work efficiency?	17	14.7	12	10	56	47	20	17
Have any symptoms listed above interfered with the relationships with colleagues?	25	20.8	20	17	35	30	40	33
Have any symptoms listed above interfered with the relationships with the family?	10	83	35	30	35	30	40	33
Have any symptoms listed above interfered with the social life activities?	19	15.8	50	42	45	38	6	30
Have any symptoms listed above interfered with the home responsibilities?	35	29.9	60	50	20	17	10	8.3
Have any symptoms listed above interfered with absence from the lecture or work?	11	9.2	19	16	35	30	60	50
Have any symptoms listed above affected the academic achievement or annual evaluation?	6	5	24	13	20	17	70	58

Table 4: Distribution of the study participant regarding premenstrual syndrome and functional domain of life.

(Table 5) show that learning motivation regarding learning characteristics, 54.2% of the study participants were never to Seek the “Hows” and “Whys” rather than taking them for granted. And 39.2% of them had Logics Able to understand diagrams by intuition. Regarding creativity the study participant never to demonstrate a keen sense of humor and like to think in different angles. Regarding role as leadership abilities the student never to Like to participate in-group activities or have ability to understand other people’s feelings and needs (46.7% & 31.7%).

	No comment	**Never**	**Same Time**	**Often**	**Always**
Learning and motivation					
a)Able to focus on a topic for a long period of time	19.70%	20.20%	18.80%	10.80%	30.50%
b)Able to learn autonomously and independently	32.50%	9.20%	30.80%	46.70%	7.50%
c)Sustained interest in certain subjects or issues	29.20%	55%	4.20%	7.50%	4.20%
d)Persistent and refuse to give up when facing difficulties or failure	31.70%	52.50%	4.20%	7.50%	5.80%

Learning characteristics					
a) Learning characteristics Seek the "Hows" and "Whys" rather than taking them for granted	6.7	54.2	25.8	7.5	3 .3%
b) Logics Able to understand diagrams by intuition	3.3	39.20%	32.50%	18.30%	6.70%
c)Able to understand the logical relationship between similar diagrams	7.5	8.3	64.2	13.3	6.70%
d) Able to appreciate the beauty of drawings and create different diagrams	7.50%	9.2	64.2	12.5	6.70%
Behavioural Performance in Class					
a) Behavioral Performance in Class activities in accordance with instructions	3.30%	3830.00%	23.30%	26.70%	8.30%
b) Show courage to ask questions	2.50%	45.80%	30.00%	14.25%	7.50%
c) Able to concentrate on his/her study	5.00%	45.00%	30.80%	11.70%	7.50%
d) Able to cooperate with classmates	5.00%	36.70%	30.80%	11.70%	7.50%
e) Able to express his/her emotions effectively	7.50%	44.20%	24.20%	13.30%	10.80%
Creativity					
a) Demonstrate a keen sense of humor	1.70%	26.70%	50.00%	14.20%	7.50%
b) Willing to attempt, to make assumption	5.00%	6.70%	46.70%	34.20%	7.50%
c)Like to think in different angles	5.80%	35.80%	12.50%	10.00%	2.50%
d) Able to suggest ideas and solutions to various problems	2.50%	15.00%	53.30%	17.50%	11.70%
Leadership					
a) With a strong sense of responsibility and can be entrusted with tasks	2.50%	13.30%	60.80%	15.00%	8.30%
b) Like to participate in group activities	24.2	46.70%	20.00%	20.00%	7.50%
c) Able to cooperate with others	4.20%	4.20%	41.70%	26.70%	23.30%
d) Able to communicate effectively with others and express him/herself clearly	1.70%	15.80%	52.50%	20.80%	9.20%
e) Able to understand other people's feelings and needs	4.20%	31.70%	43.30%	13.30%	7.5
f) Show leadership in various activities	10.9	17.6	35.3	19.3	16.8

Table 5: distribution of the study subject according to Student academic Performance during premenstrual phases.

Discussion

As the menstrual period is known to affect the student's academic performance. Premenstrual moods and symptoms may well play a discernible role in the academic performance of some adolescent female students Because the academic stress viewed as a chronic stress due to the nature of academic demands; was associated with negative health outcomes of depression and physical illness. It is therefore, conceived that academic stress experienced by female college students may be implicated as negatively affecting the premenstrual symptom experience [10]. This study investigate the premenstrual symptoms, mood change and academic performance among nursing students.

Regarding Premenstrual Symptoms

The current study revealed that, the Majority (87.5%) of the adolescent girls experienced associated symptoms during premenstrual symptoms. namely; pains either abdominal or back pain, breast tenderness, and headache (51.42-40 % & 49.52%) respectively. This result was similar to the study of Nattapong, et al. Who found that PMS is a common menstrual disorder among high school students and the three most common somatic symptoms were breast tenderness, headache and abdominal pain. In most cases, these symptoms were rated as mild to moderate in severity [10].

Regarding severity of premenstrual symptoms, the current study revealed that (39.2% & 50.8%), of the study participant described the symptoms as severe to moderate, respectively. The severity of PMS symptoms was rated by the participants on the basis of their impacts on their daily lives, ranging from mild to moderate to severe. Mild symptoms were defined as not limiting daily activity. Symptoms were considered moderate if there were marked limitations with regard to daily activity, and severe if the participants were unable to carry out the activities without discomfort [11].

44.2% of participant ask helping and counseling her friends and 28.5% of them reported absent from college or leave early to home due to this symptoms. This is in contrast to the results of which found the majority of participants consulted their mothers than their friends regarding symptoms of PMS. Prolonged stress exposure could lead to persistent malfunctions of the neuroendocrine system and trigger PMS. On the other hands, the current study go on line with who found that a positive significant relationship between abdominal menstrual pain and association within peers and colleagues. It was also obvious that females who suffer this health problem do seek help usually from friends well as seek help through peers [12,13].

Regarding the measurement to relieve the premenstrual symptoms, 37.5% of the participants use hot application to relieve premenstrual pain and discomfort. This result go on line with study of who found that the majority of the student use hot application to relive premenstrual pain on abdomen and back. Application of heat in the form of hot water bag considered the easily and available methods than counter analgesics [14].

The current study revealed that 76.7 % of the students have knowledge about menstruation and premenstrual symptoms. The sours of information usually through they mother (56.52%) and old sister (40.21%). These findings comply with the finding of the study of where 48% of the student have good knowledge about menstruation and premenstrual symptoms and received this knowledge from mother. This proved the highlight about the multiple social roles of women are determining their health status and leading to different health-related consequences. Thus, to plan the effective preventive intervention, providing valid and reliable evidence in this field is necessary because of the variability of the available studies results. Although recently reported reviews have provided useful results on other aspects of women health problem, there is no review of various studies result in Iran on the prevalence of PMS. In addition, few participants (3.1%) in this study had consulted their physicians for PMS, which was similar to findings from a previous study by Hamadan, in which PMS was evaluated in Indian adolescents (4%). As we found in the study, only a small proportion of participants consulted their friends (33.9%) or parents (22.8%) regarding PMS [15,16].

Around one third of the study participant (30%, 33.3%) had reported symptoms had severe interfere with the colleagues and family and social life activities the study go on line with the results of [2] who had shown that 20.2% of the females experienced the interference of symptoms with their relationship with colleagues [17]. 50% of the participant them had reported symptoms had severe interfere with the lecture or work and effect negatively on academic performance. This results was agree with The results of who reported that 70% of female had experience of absence from lecture or work, stated that symptoms affected the academic achievements [18].

According to the academic performance during premenstrual time, generally speaking, the current study revealed that regardless of aetiology though, the possible interference with academic. School performance at the menstrual and premenstrual phases of the monthly cycle remains potentially problematic. In current study the academic performance measure mainly aspect namely: learning and motivation, learning characteristics, behavioral Performance in class, creativity to learning and leader ship. These results go on line with study of who found that Academic performance was affected by premenstrual phases in several ways mainly study time, concentration, participation in-group activities, examination performance and class attendance [19].

Particularly, regarding learning and motivation during ability, this study revealed that , the student un able to focus on a topic

for a long period of time, have no ability to learn autonomously and independently, enable to sustained interest this study go on line with. This results agree with the results of the study examined the effect of menstrual symptoms on academic performance of the students. Were said the student not having interest to go to the college during premenstrual period, and reported about lack of concentration during study hours. In addition, these symptoms were affecting the remembrance of the students also; difficulty in remembering the studied contents [20,21].

Regarding learning characteristics, the current study revealed that, the participant not able to seek the "Hows", and "Whys" rather than taking them for granted and have no ability to understand diagrams or exam logically. This results go on line with Even the menstrual symptoms were affecting the student's performance of examination. Here greater part of study participants were not having interest to write their examination during menstruation and were reported that they were not able to prepare for the examination and were having lack of concentration during examination [22].

Regarding , behavioral Performance in Class The menstrual symptoms were interfering with student's assignments and extracurricular activities Study or participate in activities in accordance with instructions Show courage to ask questions Able to concentrate on his/her study Able to cooperate with classmates and able to express his/her emotions effectively. This result go on line with the present study clearly stated the majority of students were having more difficulty to cope up with the classroom performance during menstruation. Although this study also stated that, the students were having more difficulty to complete their assignments and even during examination with the menstrual symptoms. It was supported by a study conducted among medical students of Nigerian university [23]. In sufficient sample, size was limitation of this study.

Conclusion

The present study has conclude that premenstrual syndrome was most problem facing girls in college, associated with academic performance changes. Especially due to the continues academic demand distress for assignments, papers, projects/presentations and time studying.

Recommendations

- Strategies should be developed for early detection and management of PMS in young women.
- Students should receive professional support in order to overcome the problems associated with PMS. And use coping methods.
- Even simple recommendations about healthy diet, excesses, reduce stress may help young girls to reduce symptoms.
- A study can be conducted with large samples to generalize the findings.
- A comparative study can be done between medical and other college.
- A comparative study can be done between educated and housewife.

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