

PREMENSTRUAL SYNDROME IN STUDENTS OF NURSING SCHOOL OF A TERTIARY CARE HOSPITAL

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ABSTRACT

Objective: To find out the frequency and severity of premenstrual syndrome (PMS) in nursing students.

Material and Methods: A cross sectional survey was conducted in school of nursing at Khyber Teaching Hospital Peshawar, Pakistan from March 2017 to June 2017. A total of 200 nursing students were enrolled in the study using purposive sampling technique. Revised Premenstrual Tension Syndrome Scale (Observer Rating) was used to collect the data in addition to collect the demographic details of the participants. SPSS 20 was used for analysis of the data.

Results: The mean age of the participants was 22.4 ± 3.8 years. More than half ($n=102$, 51%) of the nursing students had PMS. Of these 102, 42 (41.2%) had mild, 48 (47.0%) had moderate and 6 (11.8%) had severe form of PMS. Decreased interest in usual activities ($n=83$) and irritability ($n=78$) were the commonest symptoms reported in the cases of PMS and the severity of these symptoms were reported as high by comparatively more nursing students.

Conclusion: Majority of nurses suffer from PMS, however only a very few were having severe PMS. Majority of nurses were having PMS, exhibited psychological symptoms followed by somatic symptoms.

Key Words: Premenstrual Syndrome (PMS), Nurse, Premenstrual Tension Syndrome Scale.

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INTRODUCTION

Premenstrual syndrome (PMS) is considered if a woman complains of recurrent psychological or somatic symptoms (or both) occurring specifically during the luteal phase of the menstrual cycle and which resolve in the follicular phase at least by the end of menstruation¹. This syndrome was described for the first time in 1930.² The prevalence rates vary due to cultural characteristics, sample differences and diagnostic methods, but as reported in various studies, 50-80% of women experience mild to severe PMS.^{3,4} The symptoms vary tremendously and have serious impacts on the patients' health and quality of life. Common psychological symptoms are depression, irritability, anxiety, tension, aggression, inability to cope and feeling out of control. Headache, backache, joint aches, abdominal pain, bloatedness

and mastalgia are somatic symptoms. Majority of women can feel these symptoms usually in the luteal phase. However, it is not the type rather the severity of the symptom and the extent to which it may disrupt the normal life, which distinguishes women with PMS from those who have normal physiological symptoms.⁵ Unlike other diseases, no proper diagnostic (biochemical, endocrine or imaging) tests are available, so one has to rely on the prospectively completed symptoms charts / scales in order to establish the diagnosis.⁶

Exact etiology of PMS is unknown but it is considered multifactorial with genetic, environmental and underlying psychological influences. The main provoking key factor is ovulation and the endogenous progesterone produced in the luteal phase of the cycle.⁶ Various theories have been postulated as the cause of PMS, which include progesterone excess, progesterone deficiency, estrogen progesterone imbalance, but recently accepted mechanism is the increased sensitivity to the normal level of progesterone, which is related to dysregulation of serotonin metabolism.⁷

Research has suggested that women having premenstrual syndrome face problems with their professional performance. Nurses who have to play an important role in the healthcare system are likely to

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face similar issues. However, the extent of the problem has not been studied in the nurses of Khyber Pakhtunkhwa province of Pakistan and therefore, this study was planned to find out the frequency and severity of premenstrual syndrome in nursing students of Khyber Teaching Hospital, Peshawar.

MATERIAL AND METHODS

This study was conducted in the school of nursing Khyber Teaching Hospital, Peshawar, Pakistan from March 2017 to June 2017. Permission from the ethical committee of the concerned institution was taken. It was a cross sectional survey and sampling technique was purposive. Inclusion criteria were women of reproductive age with normal regular menstrual cycle. Girls with irregular menstrual cycle, those who are using contraceptive pills and those who have underlying physical and / or psychiatric illnesses were excluded from the study. After following the inclusion/ exclusion criteria, 200 nurses were included in the study after taking written informed consent, before filling of questionnaire.

In addition to the collection of demographic details, the data was collected using revised Premenstrual Tension Syndrome observer rating scale (PTMS-OR). It has been constructed using rank ordered items from existing rating scales in order to identify symptoms specific to the late luteal phase of the menstrual cycle. It is a validated and pretested questionnaire, which has been used as diagnostic and/or outcome measure in PMS clinical trials. The scale was completed by a trained clinician during luteal phase of the menstrual cycle. In order to establish the diagnosis, these symptoms should disappear with the onset of menstruation at least by the 6th day. At the end of the questionnaire, it was specifically asked; do the symptoms disappear after onset of menstruation? The clinician rates 11 domains by severity with a range of 0 to 4 in nine domains and 0 to 2 in two domains for a maximum total score of 40. Patients who scored less than 10 were labeled as having no PMS. Patients with scores 10-17 were labeled as having mild PMS, 18-27 moderate and more than 27 were labeled as having severe PMS.

The statistical analysis was done using Statistical Package for Social Sciences version 20. Mean $\pm$ standard deviation was calculated for numerical data. Descriptive statistics were used to calculate frequencies and percentages of different variables.

RESULTS

A total of 200 nursing students participated in the study. Classification of premenstrual syndrome (PMS) in the forms of mild, moderate and severe is shown in Table 1. Mean age of the sample was 22.4 ± 3.8 years. Mean age at menarche was 13.9 ± 1.4 years. Mean weight was 53.0 ± 9.1 kg. Majority were single [$n=179$, 89.5%] and educated upto intermediate level [$n=160$, 80%]. The demographic variables are shown in Table 2.

Out of 200, 102(51%) nurses had PMS. Of them, 42(41.2%) had mild, 48(47%) had moderate and 12(11.8%) had severe PMS. The detailed description of the scale showed that the most commonly reported symptoms were decreased interest in usual activities ($n=83$, 81.4%) and irritability and hostility ($n=78$, 76.4%). Mood changes were observed in 73(71.5%). Concentration difficulty was observed in 64(62.7%) subjects, 64(62.7%) had anxiety and 59(57.8%) reported depressed mood. Marked lack of energy in luteal phase was observed in 42(41.1%) subjects and 71(69.6%) subjects felt overwhelmed in premenstrual phase. Forty-six (45%) showed changes in eating habits. Of them, 30(65.2%) had mild and 16(34.8%) had marked increase in food intake. Sleep problems were found in 41(40%) with 18(44%) having difficulty in falling asleep while 23(56%) needed more to sleep. Regarding physical symptoms 53(52%) had backache and 45(44%) had tender painful breasts, 48(47%) reported headache and 42(41.2%) had pain abdomen. The details and further division of the symptoms into mild moderate and severe are given in Table 3.

Table 1: Classification of PMS

Severity of PMS	Mild	Moderate	Severe
PTMS-OR Score	10-17	18-27	>27

Table 2: Demographic variables

Variables		Number (%)
Age group	<26 years	173 (86.5)
	26-35 years	23 (11.5)
	>35 years	4 (2)
Marital Status	Single	179 (89.5)
	Married	21 (10.5)
Educational Status	Matriculate	10 (5)
	Intermediate	160 (80)
	Bachelors	23 (11.5)
	Masters	7 (3.5)

Table 3: Frequency of different Symptoms of PMS (n=102)

S. No.	Symptom	Total	Mild	Moderate	Severe
1.	Depressed mood	59	40 (67.8%)	15 (25%)	4 (6.7%)
2.	Anxiety/ Tension	64	34 (53%)	22 (34.3%)	8 (12.5%)
3.	Affective lability	73	39 (53%)	26 (35.6%)	8 (10.9%)
4.	Irritability/Hostility	78	43 (55%)	23 (29.5%)	12 (15.5%)
5.	Decreased interest in usual activities	83	43 (52%)	26 (31.2%)	14 (16.8%)
6.	Concentration difficulty	64	41 (64%)	16 (25%)	7 (11%)
7.	Marked lack of Energy	42	20 (48%)	18 (43%)	4 (9%)
8.	Overwhelmed	71	41 (58%)	17 (24%)	13 (18%)
9.	Painful tender breasts	45	18 (40%)	14 (31%)	13 (29%)
10.	Backache	53	24(45%)	19(36%)	10 (19%)
11.	Headache	48	14 (29%)	21 (44%)	13 (27%)
12.	Pain abdomen	42	14 (33%)	15 (36%)	13 (31%)

DISCUSSION

The school of nursing at Khyber Teaching Hospital was established in 1998 and currently is responsible for an average number of 390 nursing students. This is a recognized school for postgraduate nursing training. The mean age at menarche of our sample was 13.9 ± 1.4 which is comparable with the figures of 13.38 ± 1.48 reported by Kumari S.¹² Prevalence of PMS in our study was 51%. It is in accordance with the frequency reported by Tabassum S which is 53%.¹³ Another study by Johnson SR shows even higher prevalence of 75%.¹⁴ While Shershah S results showed low prevalence of 33%.¹⁵ Our study showed 41.2% mild, 47% moderate and 11.8% severe PMS while the study by Tabassum S showed that 50% had mild, 18% had moderate and 31% had severe PMS.¹³ The reason for more severe PMS in her study can be that she conducted her study in medical college students. Tough study schedule as an additional stress factor can be the reason. Severity in our study is comparable to the study conducted by Firoozi R who reported that 15% subjects had mild PMS, 38% moderate and 11% severe PMS.¹⁶

Symptoms studied were psychological, somatic and behavioral. There is wide variation in the frequency of different symptoms across the literature. Physical and psychological symptoms are more frequently reported in various studies as compared to the behavioral symptoms.¹⁷ Our study showed more psychological symptoms (decreased interest in usual activities 81.3%, irritability 78%, mood changes 71.5% concentration difficulties 63%, anxiety 63% and depression 57.8%), followed by somatic symptoms (back ache 83%, tender breasts 44%, headache 47% and pain abdomen 41.2%). Behavioral symptoms were least common. This is in contrast to the study by Kumari S whose study showed that most common symptoms reported in the premenstrual phase were somatic followed by psychological and behavioral symptoms.¹² Their study reported 70%

females had backache, 47% had joint and muscle pain, 40% had laziness. Psychological symptoms were next in order while 44% reported irritability, 36% reported anger and 26% reported poor efficiency and 24% reported overwhelmed. Probably it can be due to differences in the environment and culture. Antai AB and Tatari E also reported more somatic symptoms than psychological symptoms.^{18,19}

In our study irritability was more commonly reported (78%) than anxiety (63%) and depression (57.8%). It is in accordance with latest research, which found irritability to be more common than depressed mood.²⁰⁻²³ Limitations in the current study are the age and specific job related stress associated with the nursing profession. Higher incidence of the PMS in our study could be due to young age of the nursing students, stressful duty hours and night shifts, lack of sleep, and problems related to living away from home. The results, therefore, cannot be generalized to whole population. Further studies are required involving participants from all age groups and different clusters of the community.

CONCLUSION

Psychological symptoms followed by somatic symptoms were exhibited by majority of nurses having PMS.

RECOMMENDATION

Life style modification techniques should be applied to reduce the severity of the symptoms.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

- Akhtar Z:** Substantial contribution to the concept and designed analysis and interpretation of data drafting the article.
- Qazi Q:** Analysis and interpretation of data.
- Iqbal M:** Drafting the article and its critical analysis.
- Muhammad S:** Drafting the article and critical analysis.
- Rafiq M:** Final proof reading of the article.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.