



Most Frequent Physical Symptoms of Premenstrual Syndrome among Reproductive Age Group Women in Rural Area

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ABSTRACT

Introduction: Premenstrual syndrome (PMS) is a physical, cognitive, affective and behavioural symptoms occurring preceding menstruation and disappears after menstruation. It is reported that 50- 80% of women experience PMS. Studies revealed almost 75% of women belonging to reproductive age group experienced symptoms associated with menstruation.

Objective: This study was done to find out distribution of physical symptoms of premenstrual syndrome among study population and also to assess the most frequent physical symptoms of PMS among study population.

Methodology: This descriptive cross sectional study was conducted in parangipettai town, Cuddalore district among 650 women of reproductive age. Pretested Proforma was used to collect data. The sampling technique used was single stage area wise cluster sampling technique.

Results: Out of 650 women, 519 had atleast any one of the following the physical symptoms. The ranking reveals that general aches and fatigue are the most frequently reported physical symptoms of PMS. The next symptom will be head ache and back ache. Muscle stiffness and painful breasts ranked as the third group of symptoms followed by other symptoms.

Conclusion: General aches, fatigue, headache and backache are the most frequently occurring physical symptoms.

Key words: Premenstrual syndrome, frequent, reproductive age group

INTRODUCTION

Menstruation reflects not only reproductive function but also an important indicator of women's health¹. Epidemiological surveys estimated that almost 75% of women belonging to reproductive age group experienced premenstrual symptoms associated with menstruation². Premenstrual syndrome is defined as a cyclic recurrence of distressing somatic and affective symptoms which occurs 7-14 days before the onset of menstruation and subsides with the commencement of menstrual flow³.

The prevalence of Premenstrual syndrome (PMS) had doubled over a period of 50yrs because of increased recognition⁴. World Health Organization (WHO) reported that about eighteen million women aged 30-55 years were with premenstrual syndrome, cycle irregularities, etc⁵. 90% of women between 15-49 years had PMS irrespective of their geographic location⁶. Epidemiological study reported that 15% of reproductive age group women experienced PMS symptoms⁶.

The etiology of Premenstrual syndrome still remains unknown. It might be complex and multifactorial⁷. Hormonal imbalance contributes to both

emotional and physical symptoms by altering brain neuro transmitter function.⁸

The symptoms of Premenstrual Syndrome and PMDD include Swelling, breast tenderness, aches, headache, bloating, sleep disturbances, appetite change, poor concentration, decreased interest, social withdrawal, irritability, mood swings, anxiety/tension, depression and feeling out of control. Out of these, six symptoms were identified as core symptoms for clinical diagnosis. They were anxiety/tension, mood swings, aches, appetite/food cravings, cramps and decreased interest in activities⁹. To diagnose PMS one moderate to severe physical symptom must be present, based on the diagnostic criteria in the DSM-IV. The diagnosis of PMS requires atleast five psychological and physical symptoms, out of which one psychological symptom should be severe.

In order to overcome these effects women tend to develop coping strategies.

With this background the Prevalence of PMS was carried out among women in the reproductive age group residing in the rural field practice area, under rural health centre, Department Of Community Medicine, Rajah Muthiah Medical College, Annamalai University. The most frequent occurrence of physical symptoms is discussed in this article

OBJECTIVE

This study was conducted to find out common physical symptoms of Premenstrual syndrome among reproductive age group women in a rural area and also to assess the most frequent physical symptoms among reproductive age group women in a rural area.

METHODS

The descriptive cross-sectional study was conducted at the field practice area of parangipettai under rural health centre of community medicine, Rajah Muthiah Medical College, Annamalai university.

Sample size: A study done by Enas H Mohamed et al. about prevalence and factors affecting premenstrual syndrome in Algerian village Suez governorate reported that 80.8% of the study population who were under the child bearing age group had PMS. Keeping this as prior information, sample size was determined with relative precision as 5% and the level confidence as 95%. The reproductive age group women in the field practice area parangipettai was 2934. The required sample size was found to be 325. Since house to house survey was carried out, the clustering effect has been taken as

2. Hence a sample of 650 women has been selected for the study.

Sampling technique: A door to door survey of all residents was done in the village. During the first and second survey data was collected from 610 women. During the third visit a sample 650 was obtained. The sampling technique adopted was single stage area wise cluster sampling technique.

Data Collection:

A pretested proforma was used to collect the household particulars, socio demographic variables, menstrual history and Moos menstrual distress questionnaire from the study subjects. The Questionnaire consists of two parts. The first part had questionnaire regarding participant's socio demographic details like name, age, education, occupation, etc, along with diet history, menstrual history, number of children, sleeping disturbance, family history of premenstrual syndrome and physical activity. The second part had Moos Menstrual distress questionnaire before and after menstruation which contains description of symptoms classified into eight categories (total 47 items) such as pain (6), concentration (9), behavioral change (5), autonomic reaction (4), water retention (4), negative effect (8), arousal (5) and control (6) each of which was scored in the premenstrual phase¹⁰. The MDQ allows participants to describe their experience and rate the intensity of their experience as Never (0); Rare (1), Sometimes (2), Often (3), and Very often (4)

Scoring and Interpretation:

Each item had five options categorized on a 0-4 rating scale with scores as mentioned above. The total score was 188. The level of premenstrual syndrome was ranged as follows.

0 - No experience of symptoms

1-47 - Mild

48-94 - Moderate

95-144 - Strong

145-188 - Severe

Operational Definition

According to MOOS score, the participants who had a score of above 0 was considered as having premenstrual syndrome. The third part of questionnaire consists of coping strategies.

Data Entry and statistical analysis

The collected data were entered in excel spread sheet, compiled and analysed using IBM SPSS version 21, statistical package. Descriptive statistics was use to analyse the socio demographic variables. Friedman's test and multiple comparison test for Friedman's was applied.

RESULTS

Table 1 shows the classification of the respondents on the basis of socio demographic variables. Among the study subjects, 51.2 % were under the age group of 15-30 years followed by 31-45 years (43.5%). Majority of the study subjects (77.7%) were married. Most of the study participants (43.2%) had studied up to secondary level of education. Among the study participants, 50.6 % were house wives. Majority of the participants (41.3 %) had monthly income of Rs 5001 – 30,000. Out of 650 women, 519 had at least any one of the following the physical symptoms.

Table 1: classification of the respondents on the basis of socio demographic variables

Variables	Frequency (%)
Age	
<15 yrs	29 (4.5)
15-30 yrs	333 (51.2)
31-45 yrs	283 (43.5)
>45 yrs	5 (0.8)
Marital status	
Single	140 (21.5)
Married	505 (77.7)
Widowed	5 (0.8)
Education	
Illiterate	114 (17.5)
Primary	176 (27.1)
Secondary	281 (43.2)
Graduate	79 (12.2)
Occupation	
Housewife	329 (50.6)
Working	223 (34.3)
Student	98 (15.1)
Income	
<5000	234 (36)
5001 – 30000	269 (41.3)
30001 – 60000	134 (20.6)
>60000	13 (2.1)

The common symptoms were general aches and pains, Fatigue, Headache, Backache, Painful breasts, Muscle stiffness and Cramps. Nausea, vomiting, weight gain, dizziness / faintness, swelling, cold sweats, hot flashes and skin disorders were found to be rarely present (Table 2).

Friedman’s test has been applied to find out any variations exist on the occurrence of the physical symptoms reported. The significant p value of the Friedman’s test indicates the occurrence of physical symptoms is statistically different (Table 3).

Hence the Friedman’s multiple comparison test has been applied to find out the most frequent occurrence of the physical symptoms reported above. The ranking reveals that general aches and fatigue are the most frequently reported physical symptoms of PMS. The next symptom will be head ache and back ache. Muscle stiffness and painful breasts ranked as the third group of symptoms followed by cramps nausea and vomiting. Skin disorders, swelling, dizziness, faintness, weight gain and cold sweats were rarely occurring symptoms.

Table 2: Distribution of physical symptoms of the study participants

Symptoms	Participants (n=519) (%)
General aches and pains	239 (46)
Fatigue	209 (40.2)
Head ache	203 (39.1)
Back Ache	190 (36.6)
Painful breasts	143 (27.5)
Muscle stiffness	111 (21.3)
Cramps	68 (13.1)
Nausea, vomiting	40 (7.7)
Weight gain	8 (1.5)
Dizziness / faintness	6 (1.1)
Swelling	4 (0.7)
Cold sweats	1 (0.1)
Skin disorders	1 (0.1)

Table 3: Most frequent physical symptoms of the study participants

Symptoms	Never (%)	Rare (%)	Sometimes (%)	Often (%)	Very often (%)	Ranking*
Muscle stiffness	408 (78.6)	64 (12.3)	41 (7.9)	3 (0.6)	3 (0.6)	3
Head ache	316 (60.9)	83 (16)	114 (22)	4 (0.8)	2 (0.4)	2
Cramps	451 (86.9)	4 (0.8)	58 (11.2)	6 (1.2)	0 (0)	4
Back Ache	329 (63.4)	51 (9.8)	128 (24.7)	7 (1.3)	4 (0.8)	2
Fatigue	310 (59.7)	87 (16.8)	116 (22.4)	5 (1)	1 (0.2)	1
General aches & pains	280 (53.9)	66 (12.7)	159 (30.6)	9 (1.7)	5 (1)	1
Dizziness / faintness	513 (98.8)	1 (0.2)	1 (0.2)	4 (0.8)	0 (0)	5
Cold sweats	518 (99.8)	1 (0.2)	0 (0)	0 (0)	0 (0)	5
Nausea, vomiting	479 (92.3)	12 (2.3)	20 (3.9)	5 (1)	3 (0.6)	4
Weight gain	511 (98.5)	0 (0)	8 (1.5)	0 (0)	0 (0)	5
Skin disorders	518 (99.8)	0 (0)	1 (0.2)	0 (0)	0 (0)	5
Painful breasts	376 (72.4)	22 (4.2)	104 (20)	14 (2.7)	3 (0.6)	3
Swelling	515 (99.2)	2 (0.4)	1 (0.2)	1 (0.2)	0 (0)	5

*Ranking after Friedman’s multiple comparison tests; Friedmans test value = 1508.9; df=13; p<0.001

DISCUSSION

Menstruation is the endpoint of the physiological events taking place from the hypothalamus and ends in uterus. It depends on the hypothalamo-pituitary ovarian function. Premenstrual syndrome comprises physical, psychological and behavioural changes which is due to biochemical abnormalities without any organic lesion¹¹.

Physical symptoms such as general aches and muscle pain are caused changes in hormone - responsive tissues in the periphery¹². This study showed 36.8 % of the study subjects had general aches and pain where as in a comparative study done by Najme Rezaeian et al between athletes and non athletes found out that general body discomfort was 32 % in athletes and 51 % in non-athletes¹³. In contrast, Study done by Mahin Delera among 1379 Iranian adolescents, general aches was 12.1 %¹⁴ and it was 55.3 % in a study done by Nasim Naeimi in 2015¹⁵. This study showed 32.2 % of the participants had fatigue.

Similarly J.taylor et al found that fatigue as 35 % among the age group of 20-44yrs women¹⁶. In contrast Nancy fugale woods et al reported fatigue as 26.3 % among 345 women¹⁷.

The biochemical changes occurring in PMS are oestrogen excess or progesteron deficiency, increased carbohydrate intolerance in luteal phase causing fatigue general weakness etc.¹¹

This study showed 31.2 % of the study subjects had head ache, similarly Najme Rezaeian et al reported that head ache was 31.7 % in non - athletic groups¹³ and Nasim Naeimi in a prevalence study reported head ache as 32.9%. In contrary Mahin delera in a Iranian study found that head ache was 7.4 %¹⁴

Increased production of vasopressin, aldosterone, prolactin and systemic prostaglandins contribute to fluid retention causing to breast tenderness, bloating, weight gain, etc.¹¹

In this study among the physical symptoms back ache was 29.1% where as Nancy fugale woods et al reported back ache as 8.1 %¹⁷. Among the study participants it was found that painful breasts were 22% in this study. whereas study done by RJ Taylor et al and Mahin delera et al reported breast tenderness was 54 % and 45 % respectively^{16, 14}.

In the study the most common symptoms were general aches and pains, fatigue, headache, back-ache and painful breasts, whereas Nasim Naeimi reported that muscle pain ache, chest pain, puffy face, depression and distress as the most common symptoms among Iranian university students¹⁵. Mahin delera et al., found that the most frequently reported symptoms were back pain, lethargy and

fatigue¹⁴. The physical symptoms can be treated by pharmacological treatments like non-steroidal anti-inflammatory drugs (NSAID) hormonal therapy and nutritional supplements. The non pharmacological treatments are life style modifications such as exercise, dietary modifications, yoga, meditations etc.

CONCLUSION

The physical symptoms of premenstrual syndrome are general aches and pains, fatigue, head ache, back ache, painful breasts, muscle stiffness, cramps, nausea, vomiting, weight gain, dizziness/faintness, swelling, cold sweats and skin disorders. Most frequent symptoms reported include general aches and pains, fatigue, head ache and back ache.

Limitations

Since it is a questionnaire based study, recall and information bias must have affected the study. The symptoms explained were those perceived by respondents, may not be accurate. Subjective variations may be present while collecting data.

REFERENCES:

1. Sarkar A, Mandal R, Ghorai S. Premenstrual syndrome among adolescent girl students in a rural school of West Bengal, India. *Int J Med Sci Public Heal* [Internet]. 2016;5(3):408. Available from: <http://www.scopemed.org/fulltextpdf.php?mno=197361>
2. Tabassum S, Afridi B, Aman Z, Tabassum W, Durrani R. Premenstrual syndrome: Frequency and severity in young college girls. *J Pak Med Assoc.* 2005;55(12):546-9.
3. Tolossa FW, Bekele ML. Prevalence, impacts and medical managements of premenstrual syndrome among female students: Cross-sectional study in college of health sciences, Mekelle University, Mekelle, Northern Ethiopia. *BMC Womens Health.* 2014;14(1):1-9.
4. Mohamed EH, Youssef IM, Ahmed AB, Hamied SA. Prevalence and Factors Affecting Premenstrual Syndrome (PMS) in Alganaen Village , Suez Governorate. 2013;81(2):25-8.
5. N.Karout SMH and SA. Prevalence and Pattern of menstrual disorders among Lebanese nursing students. *East medetranian Heal J.* 2012;18:4.
6. Kurien MJ. An Overview on Pathophysiology of Premenstrual Syndrome. *Anat Physiol Biochem Int J* [Internet]. 2017;2(1). Available from: <https://juniperpublishers.com/apbij/APBIJ.MS.ID.555580.php>
7. Zaka M, Mahmood KT. Pre-Menstrual Syndrome- a Review. *J Pharm Sci Res.* 2012;4(1):1684-91.
8. Kroll-Desrosiers AR, Ronnenberg AG, Zagarins SE, Houghton SC, Takashima-Uebelhoer BB, Bertone-Johnson ER. Recreational physical activity and premenstrual syndrome in young adult women: A cross-sectional study. *PLoS One.* 2017;12(1):1-13.
9. Delara M, Ghofranipour F, Azadfallah P, Tavafian SS, Kazemnejad A, Montazeri A. Health related quality of life

- among adolescents with premenstrual disorders: A cross sectional study. *Health Qual Life Outcomes* [Internet]. 2012;10(1):1. Available from: <http://www.hqlo.com/content/10/1/1>
10. Moos RH. The development of a menstrual distress questionnaire. *Psychosom Med*. 1968;30(6):853-67.
 11. Shaw. *Shaw's text book of gynaecology*. 16th ed. VG Padu-hidri, Shrish N Daffory;p 473.
 12. Kimberly Ann Yonkers M. Premenstrual syndrome. *Lancet*. 2008;371.
 13. Rezaeian N. Comparison of Prevalence of Premenstrual Syndrome in Athlete and Non-Athlete Students. 2015;3(5):234-8.
 14. Delara M, Borzuei H, Montazeri A. Premenstrual Disorders: Prevalence and Associated Factors in a Sample of Iranian Adolescents. *Iran Red Crescent Med J* [Internet]. 2013 ;15(8): 695-700. Available from: http://www.ircmj.com/?page=article&article_id=2084
 15. Naeimi N. The Prevalence and Symptoms of Premenstrual Syndrome under Examination. *J Biosci Med* [Internet]. 2015;03(01):1-8. Available from: <http://www.scirp.org/journal/doi.aspx?DOI=10.4236/jbm.2015.31001>
 16. Taylor RJ, Alexander DA. Survey of Paramenstrual Complaints and By Overt Methods Covert. 1986;496-9.
 17. Lustyk MKB, Douglas HAC, Shilling EA, Woods NF. Hemodynamic and psychological responses to laboratory stressors in women: Assessing the roles of menstrual cycle phase, premenstrual symptomatology, and sleep characteristics. *Int J Psychophysiol*. 2012; 86(3):283-90.