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PREMENSTRUAL SYNDROME IN YOUNG GIRLS-ACADEMIC LOSS/WORK PRODUCTIVITY

C. Vijayalakshmi¹

HOW TO CITE THIS ARTICLE:

C. Vijayalakshmi. "Premenstrual Syndrome in Young Girls-Academic Loss/Work Productivity". Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 44, November 02, 2015; Page: 7967-7970, DOI: 10.18410/jebmh/2015/1072

ABSTRACT: INTRODUCTION: Premenstrual syndrome is a common problem in young girls which adversely affects their educational performance and emotional well-being. PMS is associated with reductions in health-related quality of life and work productivity impairment regardless of the criteria used. We evaluated the loss the work productivity and functional impairment adolescent girls associated with premenstrual symptoms and dysphoric disorder (PMDD). **METHODS:** A total of 100 unmarried girls who had regular cycles for last 6 months, between the age group of 13-19 years, having dysmenorrhic symptoms and having a menstrual cycle length of 21-35 days were enrolled. Data was collected on Socio economic profile menstrual profile, PMS symptoms ACOG, DSM-IV (PMDD) & Work productivity loss & Impairment. Symptoms were recorded. **RESULTS:** Physical symptoms, the highest % of symptoms are with Abdominal Bloating (95.81%); Breast Discomfort (94.72%); Acne (93.44%); Body ache (90.71%); Increased appetite (87.43%). Psychological symptoms - Angry (94.35%) >Anxiety (92.71%) >Irritability (91.44%) >Feeling depressed (90.35%) >Feeling Stress (85.97%). Behavioral Symptoms: - Personality Change (85.6%) >Abstinence from Work (80.5%) >Violent Outburst (77.9%) Work Productivity Loss and Functional Impairment: - 27.1% have reported to have a loss of more than 2 days; 12% have reported to have loss of more than 5 days; 2% have reported to have a loss of more than 14 days. **CONCLUSION:** In the present study, 41% had academic/ work loss. 24% of PMS patients who missed more than 5 days per month with 50% reduction in work productivity and 2% missed more than 14 days per month with impairment in work/social activities/relationships.

KEYWORDS: Work Productivity, Premenstrual symptoms, Adolescence.

INTRODUCTION: Premenstrual syndrome (or) premenstrual tension is characterized by physical, cognitive, affective & behavioral symptoms which are not caused by organic disease that occurs cyclically in the luteal phase of the menstrual cycle from 5-10 days prior to onset of menstruation.^{[1],[2]} Premenstrual syndrome is a common problem in young girls which adversely affects their educational performance and emotional well-being.^[3] Most frequently reported symptoms in PMDD group were anger, anxiety, stress, depression, fatigue and general body discomfort.^[4] A subset of adolescents had experienced aberrant behavior and passive suicidal ideations as premenstrual symptoms.^[5] Premenstrual symptoms significantly affect health-related quality of life and may result in increased health care utilization and decreased occupational productivity.^[6] PMDD is a relatively stable and impairing condition, with high rates of health service utilization, increased suicidality and substantial co-morbidity.^[7] PMS is associated with reductions in health-related quality of life and work productivity impairment regardless of the

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criteria used.^[8] To this purpose, we evaluated the loss the work productivity and functional impairment adolescent girls associated with premenstrual symptoms and dysphoric disorder (PMDD).

METHODS: This Cross Sectional Study was conducted at MAPIMS (Melmarathur AdhiParashakthi Institute of Medical Sciences) in an educational hub with heterogeneous population of students who came here from different parts of India for Education during June to August 2014. All unmarried girls who had regular cycles for last 6 months, between the age group of 13-19 years, having dysmenorrhic symptoms and having a menstrual cycle length Of 21-35 days were enrolled. Girls with organic disease, thyroid disorders, eating disorders, endometriosis, married girls, psychological disorders, allergies/ asthma, seizure disorders, inflammatory bowel disease and chronic fatigue syndrome were excluded. Data was collected on Socio economic profile, menstrual profile, PMS symptoms & Work productivity loss & Impairment.^[9] Symptoms was recorded by using ACOG, DSM-IV (PMDD)^[10]

STATISTICAL ANALYSIS: The data entered in the case record forms were transferred to Microsoft Excel spreadsheet 2007 and SPSS version 11. Categorical data were presented as actual numbers and percentages. Categorical variables were analyzed with Fisher's exact test. For statistical significance, the probability value of less than 0.05 was considered.

RESULTS: Average age at menarche is 13years which is same in both PMS and non PMS group (P=1.0). Duration of menses (<7days) and (>7days) in PMS group are 91.8% and 8.19% whereas in non PMS group they were 95.6% and 4.34% (p=0.08). Regular menstrual cycle (21-35 days) was seen in 78.87% PMS group and 75.36% in non PMS group (p=0.3) frequency of cycle (<35 days) and (>35 days) in PMS group are 82.87% and 17.12% vs. 86.95% and 13.04% in non PMS group (P=0.18).

Physical symptoms, the highest % of symptoms are with Abdominal Bloating (95.81%); Breast Discomfort (94.72%); Acne (93.44%); Body ache (90.71%); Increased appetite (87.43%). Psychological symptoms- Angry (94.35%)> Anxiety (92.71%)> Irritability (91.44%)> Feeling depressed (90.35%)> Feeling Stress (85.97%). Behavioral symptoms: - Personality Change (85.6%)> Abstinence from Work (80.5%)> Violent Outburst (77.9%) Work Productivity Loss and Functional impairment: - 27% have reported to have a loss of more than 2 days; 12% have reported to have loss of more than 5 days; 2% have reported to have a loss of more than 14 days.

DISCUSSION: Premenstrual syndrome (PMS) is a common condition, and for 5% of women, the influence is so severe as to interfere with their mental health, interpersonal relationships, or studies.^[11] Severe PMS may result in decreased occupational productivity, with many cases requiring pharmacological treatment.^[12] With PMDD, women experience markedly compromised quality of life and ability to function in several settings, leading to higher direct medical costs for increased physician visits and laboratory tests, and higher indirect costs to employers through lower productivity at work.^[13] In the present study, 12.4% of PMS patients who missed more

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than 5 days per month with 50% reduction in work productivity and 2% missed more than 14 days per month with impairment in work/social activities/relationships. Our study results were in line with a study which found that perception of daily function impairment was seen in PMS including work performance.^[11] Burden on job and daily activity increased with disease severity.^[14] Women with PMS in one of two menstrual cycles reported a greater number of days with impairment in routine work, school, and household activities in comparison with women without PMS.^[15] However, The economic burden associated with PMDD manifests itself primarily in reported productivity decrements rather than health care utilization or costs associated with time away from work.^[16]

CONCLUSION: PMS is the most common problem in adolescent girls. It was observed that 72.6% of the study population is suffering from PMS. Among the PMS symptoms studied, Psychological and Behavioral symptoms are more common than Physical symptoms. Severity of PMS was found to be associated with Work Productivity Loss and Functional impairment, Premenstrual Dysphoric Disorders (PMDD). The introduction of a reproductive health component into college health education program could help in providing information, education and support to the young student. We recommend that women vulnerable to mental stress take advantage of relaxation techniques and psychotropic therapies.

Measurements	0 Cycle		1 st Cycle		2 nd Cycle	
	N	%	N1	%	N2	
> 2 days / month missed due to health reasons	28	(28)	14	(14.)	12	(12)
> 5 days / month with 50% reduction in work productivity	13	(12)	7	(7)	5	(5)
>14 days/month with impairment in work/social activities/ Relationships	2	(2)	1	(1)	1	(1)

Table 1: Work Productivity loss among the adolescent girls with Premenstrual symptoms

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AUTHORS:

1. C. Vijayalakshmi

PARTICULARS OF CONTRIBUTORS:

1. Associate Professor, Department of Obstetrics and Gynaecology, M. A. P. I. M. S., Melmaravathuru, Chennai.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. C. Vijayalakshmi,
C-16/645, Sri Bhanushankar Clinic,
Beside Sai Baba Temple,
Near Gandhi Bomma Center,
Nellore-524001.
E-mail: drvijayalakshmi14@yahoo.com

Date of Submission: 20/10/2015.
Date of Peer Review: 21/10/2015.
Date of Acceptance: 24/10/2015.
Date of Publishing: 29/10/2015.