Original Article

Comparing Vaginal Misoprostol with Intraoperative Oxytocin Infusion in Blood Loss during Abdominal Myomectomy

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Abstract

Objective: to assess the prevalence of PMS and PMDD among first-year medical students at a public college in Gujranwala, Punjab.

Methods: This Cross sectional, descriptive study was conducted at Department of Obstetrics and Gynecology, District Headquarters Hospital Gujranwala during February to July 2021. Total 172 students fulfilling the inclusion criteria, were enrolled. Then students were asked questions related to premenstrual syndrome by using Calendar of Premenstrual Experiences. If score >24, then premenstrual syndrome was labeled. If the score was >30, Premenstrual Dysphoric disorder was labelled. The information was entered and analyzed using SPSS 21.

Results: At the end of study period, I had the data of 172 female students. The mean age was 20.90 ± 2.029 years. The mean age at menarche was 10.94 ± 1.435 years. The mean weight and BMI were 54.62 ± 6.040 kg and 23.21 ± 3.021 kg/m2 respectively. The ratio between 4th and 5th year students was 78 (45.3%): 94 (54.7%). Out of 172 students, 87 (50.6%) had symptoms of PMS. The frequency of PMDD was 15 (8.7%). The data was stratified according to age, age at menarche, weight, BMI, and class year. The results showed that there was no difference between stratification groups in terms of frequency of PMS and PMDD. All p values were >0.05

Conclusion: The frequencies of PMS and PMDD in female medical students are 50.6% and 8.7% respectively. The data is from a single institution. The diverse data with large sample size would provide more insight into the subject.

Keywords: Female, Menstrual Cycle, Premenstrual Syndrome, Reproductive organ system

Introduction

Premenstrual symptoms include breast pain, stomach bloating, nausea, and headache, and are common among women who menstruate. The majority of women who have premenstrual symptoms (PMS) have moderate instances that don't need any specific treatment. However, 20-40% of women encounter severe PMS that disables them.[1] Adolescent females often experience premenstrual syndrome.[2,3] Multiple definitions exist for premenstrual syndrome.[4] According to the ACOG, premenstrual syndrome (PMS) is a clinical condition characterized by the cyclical presence of physical and emotional symptoms unrelated to any organic disease that appear during the 5 days prior to 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 day 13.[5]

Between 8 to 20 percent of premenopausal women suffer at least one symptom of premenstrual syndrome, and this number may be as high as 75 percent. Many young women or college-aged women suffer a significant decrease in quality of life due to premenstrual syndrome, and pharmacological therapies are ineffective or come with serious adverse effects.[6] Literature review regarding pre-menstrual syndrome is quite variable. One Japanese research found that just 5.3% of Japanese women had moderate to severe premenstrual syndrome, a far lower percentage than that seen in Western women.[7] While later on, similar study conducted in Japan, reported that the rates of prevalence of moderate to severe premenstrual syndrome in Japanese women were 11.8%.[8] Premenstrual syndrome is also associated with poor educa-

tional activities i.e. lack of concentration in 46.5% vs. 34%, lack of motivation in 48.8% vs. 28.1%, poor individual performance in 48.8% vs. 36.5%, low scores in 55.8% vs. 30% and poor team work in 38.4% vs. 22.2%, (p<0.05).[9] Nisar et al., found that the 51% girls met the criteria for PMS, while 5.8% girls were found to have Premenstrual Dysphoric Disorder (PMDD).[10] Haq et al., found that the 26.5% girls met the criteria for PMS. Out of them, 17.9% were feeling depression, 22.1% felt social withdrawal.[11]

The purpose of this research is to quantify the prevalence of premenstrual dysphoric disorder (PMDD) and premenstrual syndrome (PMS), two conditions that, according to the literature, significantly impact the quality of life and productivity of female medical students. This study would enhance awareness among medical students about these disorders and would evaluate variations if any in frequency of these disorders in the local context from the other population groups. The goal of this study was to assess the prevalence of PMS and PMDD among first-year medical students at a public college in Gujranwala, Punjab.

Methods

Study Design: Cross sectional study.

Study Settings: Department of Obstetrics and Gynecology, District Headquarters Hospital Gujranwala, for 06 months (1st Feb 2021 to 31st July 2021)

Sample Size: Sample size of 172 cases is calculated with 95% confidence level, 3.5% margin of error and taking expected percentage of PMDD as 5.8%10.

Sampling Technique: Non-probability, consecutive sampling

Selection of females: Unmarried Female medical students of age 18-24 years, having regular menstrual cycle for last six months and were studying in fourth and final year of their graduation year were enrolled in the study. While females with pregnant and married female students, Students with medical or psychological disorder that have symptoms like PMS OR PMDD or with any endocrine, metabolic, autoimmune, or chronic inflammatory disease or already taking medicine for severe premenstrual syndrome were excluded from the sample.

Data Collection: A total of 172 students fulfilling the inclusion criteria, were enrolled from Gujranwala Medical College, Gujranwala. After taking informed consent, demographics like name, age, age at menarche, weight, and study year were noted. Then students were asked questions related to premenstrual syndrome by using Calendar of Premenstrual Experiences. If score >24, then premenstrual syndrome was labeled. If the score was >30, Premenstrual Dysphoric disorder was labelled. Premenstrual syndrome: Many other symptoms,

such as emotional swings, sore breasts, food cravings, exhaustion, irritability, and depression, are considered to be part of the diagnostic criteria. It was labeled if Calendar of Premenstrual Experiences score >24 at time of interview out of 39 total score. PMDD: It is defined as presence of severe irritability, depression, or anxiety in the week or two before menstruation. It was labeled if Calendar of Premenstrual Experiences score >30 at time of interview out of 39 total score. All this information was recorded on pre-designed proforma.

Data Analysis: SPSS version 21 was used to enter and analyze the data. PMS and PMDD were presented in the form of frequency and percentage.

Results

At the end of study period, I had the data of 172 female

Table 1: *Basic information of females*

		Frequency	Percentage
AGE	<21 years	104	60.5%
	>21 years	68	39.5%
PMS	Yes	87	50.6%
	No	85	49.4%
PMDD	Yes	15	8.72%
	No	157	91.28%

Table 2: *Comparison of PMS in different groups based on age, Menarche age, Weight group, BMI and Classes*

		PMS		P-value
		Yes	**No**	
Age group	<21 years	57	47	
		54.8%	45.2%	0.170
	>21 years	30	38	
		44.1%	55.9%	
Menarche age group	<11 years	51	55	0.412
		48.1%	51.9%	
	>11 years	36	30	
		54.5%	45.5%	
Weight group	<55 kg	48	53	
		47.5%	52.5%	0.339
	>55 kg	39	32	
		54.9%	45.1%	
BMI group	<23 kg/m²	42	51	
		45.2%	54.8%	0.123
	>23 kg/m²	45	34	
		57.0%	43.0%	
Class group	4th year	42	36	
		53.8%	46.2%	0.435
	5th year	45	49	
		47.9%	52.1%	

students. The mean age was 20.90 ± 2.029 years. The mean age at menarche was 10.94 ± 1.435 years. The mean weight and BMI were 54.62 ± 6.040 kg and 23.21 ± 3.021 kg/m^2 respectively. The ratio between 4th and 5th year students was 78 (45.3%): 94 (54.7%). Out of 172 students, 87 (50.6%) had symptoms of PMS. The frequency of PMDD was 15 (8.7%). Table 1

The data was stratified according to age, age at menarche, weight, BMI, and class year. The results showed that there was no difference between stratification groups in terms of frequency of PMS and PMDD. All p values were >0.05. Table 2

Table 3: *Comparison of PMDD in different groups based on age, Menarche age, Weight group, BMI and Classes*

		PMDD		P-value
		Yes	**No**	
Age group	<21 years	9	95	
		8.7%	91.3%	0.969
	>21 years	6	62	
		8.8%	91.2%	
Menarche age group	<11 years	9	97	
		8.5%	91.5%	0.892
	>11 years	6	60	
		9.1%	90.9%	
Weight group	<55 kg	8	93	
		7.9%	92.1%	0.657
	>55 kg	7	64	
		9.9%	90.1%	
BMI group	<23 kg/m^2	5	88	
		5.4%	94.6%	0.092
	>23 kg/m^2	10	69	
		12.7%	87.3%	
Class group	4th year	5	73	
		6.4%	93.6%	0.328
	5th year	10	84	
		10.6%	89.4%	

Discussion

One of the most often observed disorders among young ladies across the globe is premenstrual syndrome (PMS). This set of symptoms starts before menstruation and is variable in length. The PMS has wide range of symptoms and there are ethnical and regional variations.[2,7] It effects nearly 12% of women all over the world but geographical variations are very common. PMS and associated other disorders like PMDD are a distinct diagnosis which should be managed carefully keeping in view of psychological elements associated with it. The various drugs like calcium supplementations, vitamin D, oral contra-

ceptive is helpful sporadically. The clinical depression should be managed by the psychiatrist.[5,12] The main reason behind these changes are considered hormonal and expression ranges from somatic to psychosomatic scales. The quality of life is compromised to some extent in PMS.[9,13,14] The population surveys show that a lot of young women habitually neglect the impact of PMS and a health education is required for awareness.[15] A Japanese study on working women showed that women with health literacy coped with PMS more effectively and their quality of work was suffered less as compared to women without proper health education.[16] The PMS and PMDD are the conditions which are commonly considered in young females but these conditions are prevalent among perimenopausal women with almost similar frequencies as young women. So, this age groups should also get proper evaluation before embarking upon other diagnoses.[1,11]

Nisar, N., et al. (2008) evaluated the impact of PMS in medical students. The sample size was exactly like in my study i.e. 172 cases. The mean age was 21.2 ± 1.9 years. The frequency of PMS was 51% and frequency of PMDD was 5.8%.[10] In my study, out of 172 students, 87 (50.6%) had symptoms of PMS. The frequency of PMDD was 15 (8.7%). Victor, F. F., et al. (2019) had the conclusion that in female students, frequency of PMDD is very high i.e. 23.3%. A study from Iran showed that PMS effects up to 70.8% of female students.[3] Almost similar figures were derived from a study on female medical undergraduates from India where the frequency of PMS was 72.3%.[17] The frequency of PMS in Japanese female students was seen up to 64.6%.[8]

A study in 2019 showed the data of a cross-sectional survey, which included 200 college students with mean age of 19.8 ± 0.1 years. The role of stress and subjective health state was the key factor noted during evaluation of PMS.[18] The prevalence of premenstrual syndrome (PMS) among high school students was found to be 29.8% in one research. Tenderness in the breasts and irritation were the most common symptoms reported by students (74.4% each).[9] Similarly, 95% of participants in a study of university students in the United Arab Emirates, Sharjah with a mean age of $20.07 + 1.53$ years reported experiencing at least one PMS symptom during menstruation. In this sample, PMS affected 35.3% of women. Moreover, this study concluded that dietary patterns incorporating caffeine, sugar, salts, and fast foods are strongly associated with PMS.77 The other studies also favored the link between dietary habits and PMS.[19]

The effect of PMS on the physical activity is variable. Some studies showed that there was no impact of these symptoms on the physical activity level in terms of duration and intensity.[6] Some studies concluded that PMS

is associated low performance and physical injuries in demanding jobs.[20] Bhuvaneswari, K., et al. (2019) studied 300 college students to evaluate symptomatology of PMS. The prevalence of PMS was 62.7% and the most common physical complaints are myalgias, arthralgias and abdominal discomfort.[13] Many women exhibit blood pressure variations during various phases of menstrual cycle. The luteal phase is associated with higher measurements in women with PMS.[4] The health care professionals like nurses also exhibit low quality of work associated with PMS.[21] My research used stratification by age, menarche age, body mass index, and academic year. The prevalence of PMS and PMDD did not vary significantly across the different stratification groups. All p-values were >0.05.

Conclusion

Female medical students have PMS at a rate of 50.6% and PMDD at a rate of 8.7%. The data is from a single institution. The diverse data with large sample size would provide more insight into the subject.

Conflict of Interest: *None*
Funding Source: *None*

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