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Premenstrual syndrome: Frequency and severity amongst college girls

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Abstract

Objectives: The aim of our study was to find out the frequency and severity of premenstrual syndrome amongst college girls.

Methods: The study was conducted at Arya Girls College Ambala Cant. State of Haryana, India in the academic session 2016-17 on 500 girl students. Data was collected by filling a 46 items on eight scale premenstrual assessment form by purchasing copyrights of Moos Menstrual Distress questionnaire (MMDQ) (4th edition).

Results: Out of 500 girl students 476 completed and returned the questionnaires among which 56.93% reported mild PMS, 36.76% reported moderate and 3.99% strong PMS. 2.31% of the sample was not reported any symptom of PMS.

Conclusion: Pre menstrual syndrome is a common phenomena among the girls. PMS affects the daily life of menstruating women of any age. In the present study PMS was found to be highly prevalent. Therefore it can be concluded that there is a need to find the degree of severity of PMS at different age levels and an intervention and health education programs should be promoted to the effected population for their overall health.

Keywords: PMS, Premenstrual Syndrome, College girls, MMDQ.

Introduction

Menstruation is a natural biological process which takes place in women's body every month. It ensures the perpetuation of the human race. In human the length of a menstrual cycle varies among women that ranges from 21 to 35 days, with an average or normal length of 28 days. Each cycle can be divided into three phases based on events in the ovarian cycle or in the uterine cycle. The ovarian phase consists of three phases i.e. follicular phase, ovulation and luteal phase, in the uterine cycle three phases are menstruation, proliferative and secretory phase. Both cycles are controlled by endocrine system. (Klump KL, 2013) ^[10]

First menstruation of a girl is termed as Menarche and generally occurs at the age of 12-13 and end of this reproductive phase is called menopause. These different phases experience different changes. (Johnson S, 2008) ^[9]

PMS means collection of symptoms with or without physical symptoms related to girls' menstrual cycles. In medical definition PMS are set of emotional and physical symptoms which occurs during luteal phase of menstrual cycle and enough severe to hinder in daily aspects of life. (Lori M. Dickerson, (2003) ^[11]

PMS symptoms are a combination of two kinds of symptoms i.e. somatic and psycho-emotional symptoms. Some somatic symptoms are breast tenderness, headache, back pain, weight gain and bloating etc., some psycho-emotional and behavioral symptoms are depression, anger, confusion, restlessness, anxiety and loneliness. (CN Nisar, (2008) ^[5]

According to DSM-IV Criteria Symptoms for PMS such as depressed mood, marked anxiety, marked affective lability and decreased interest in activities have regularly occurred during the last week of luteal phase in most menstrual cycles. The symptoms once begin to remit within a few days of onset of menses (The follicular phase) and remain absent in the week following menses ((Diagnostic and Statistical Manual of Mental Disorders DSM-IV)) (Diagnostic and Statistical Manual of Mental Disorders DSM-IV (IV Ed.))

Research has proved that PMS is a stress induced psycho physiological disorder and that stress is a cause of symptoms of PMS. The exact cause of PMS is not identified but according to

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studies it is suggested that it is due to complex interaction of ovarian hormones, central neurotransmitters and the autonomic nervous system. (Reid RL, 1981) [15]

By area of 1950s, the list of symptoms had increased. Paper published in 1953 extended the list of symptoms and these were referred to as Premenstruation Syndrome. (Jennett., 2001) [8]

Studies show that over 80% of women suffer PMS and its severity is about 2 - 6% amongst women of reproductive age (CN Soares, (2011) [6]

Different surveys concluded that PMS characteristics range from 5% to 95% amongst women. Survey by magazine namely Woman's Own Magazine in 1993, 9 out of 10 women claimed to have suffered at least some of the symptoms. Women experience symptoms due to hormonal changes during menstrual cycle and it is also found that PMS is not limited to premenstrual period as it can extend to menstrual period as well. (Dalton, K. and. D. Holton, PMS. Harper Collins, London: 1994)

A study conducted in USA concludes that 70% to 90% of women affected PMS during the child bearing age. But symptoms of menstruation can appear any time between puberty to menopause. About 30% to 40% of women have severe premenstrual syndrome interfering their daily routine activities. (Right Diagnosis, American college of Obstetricians and Gynaecologists (ACOG) Resource centre, (202) 863-2158)

Results of several studies have shown that Premenstrual syndrome affects the health of adolescent as well as adult girls. These observations or finding have drawn attention of medical fraternity towards its cure. Girls are found affected physically as well as psychologically during this phase of premenstrual syndrome. Keeping in view its large scale implication amongst women for at least 20 to 30 years of their life cycle, it is an issue that needs to be studied which can make way for better ability to cope with premenstrual syndrome. More and more revelations about its implications on half population of this world need to be identified for betterment of physical as well as psychological health of girls and women alike.

The aim of this study was to explore the prevalence of premenstrual Syndrome in young college students and to access the severity of PMS.

This study was conducted to find out the prevalence and Severity of PMS among the college girls according to Moos Menstrual distress questionnaire.

Methods

The subjects of study have been selected in the age group of 17 to 25 years girl students from Arya Girls College, Ambala Cantt. In State of Haryana College (affiliated with Kurukshetra University) in Academic Year 2016-17. Accessible population for study included 500 girl students to gauge the prevalence of Premenstrual Syndrome and Severity of PMS with a purchased revised 4th edition Moos Menstrual Distress Questionnaire. Data was collected on a 46 itemed Moos Menstrual Distress Questionnaire on eight scales i. e. pain, concentration, behavioral change, autonomic reaction, water retention, negative effect, arousal and control. Symptoms studied were physical, psychological, and behavioral. Each symptom was rated on Likert scale as 0 for no symptom, 1 for mild, 2 for moderate, 3 for strong and 4 for severe. Severity of PMS was assessed on the basis of Total score of 1 to 46 was considered as mild symptoms, 47 to 92 was considered as moderate, 93 to 138 as strong and 139 to

184 considered as severe PMS. Questionnaire were handed over to 500 subjects of which 476 completed and returned the questionnaires. Personal information and gynecological characteristics were collected from each participant which include age, marital Status, age at Menarche, Length of Menstrual Cycle, Duration of bleeding days, Type of cycle (Regular/Irregular), Use of Medicine and Family History.

The data was coded and entered in the computer for analysis using SPSS 17.0 software package. The data was analyzed using descriptive statistics i.e. mean, SD and percentage. Out of 500 subjects, 476 completed questionnaire. The analysis of data shows the frequency and percentage of study variables.

Results and Discussion

Among 500 girl students, 476 returned the questionnaires completed in all respects. Details of socio demographic and gynecological characteristics of the girl students are given in Table 1. Among those 56.93% was diagnosed as having mild PMS, 36.76% as moderate, and 3.99% as strong whereas 2.31% was not having any symptoms of PMS. Frequency and percentage of Socio-Demographic characteristics is presented in Table 1. Detail of symptoms frequency and percentage have been presented in Table 2. Severity of symptoms according to eight scales is presented in table 3. Detail of Premenstrual Syndrome severity is given in Table 4.

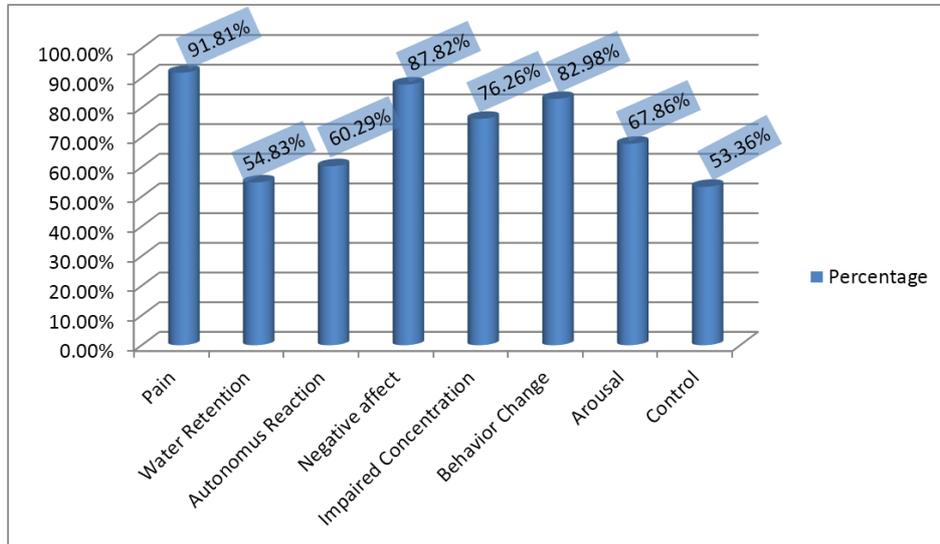
Table 1: Socio-Demographic and gynecological characteristics of study population (n=476)

Characteristics	Number	Percentage	
Age	<18	166	34.9%
	19-21	262	55.0%
	22-24	48	10.1%
Marital status	Married	4	.8%
	Unmarried	472	99.2%
Menarche	Early<12	63	13.3%
	Normal 12 to 15	364	76.5%
	Late>15	59	10.2%
Length of Menstrual Cycle	Short<21	55	11.6%
	Normal 21to34	482	80.3%
	Long>34	39	8.1%
Menstrual Bleeding Days	<6	372	78.2
	>6	104	21.8
Menstrual Cycle	Regular	430	90.7%
	Irregular	46	9.3%
Use of Medicine	Yes	104	21.8%
	No	372	78.2%
Family History	Yes	112	23.5%
	No	364	76.5%

Data presented in table1 reveals that majority of(99.2%) subjects were unmarried, only. 8% were married. 13.3% of the subjects attained menarche before the age of 12 (early Menarche), maximum girls 76.5% attained menarche at the age of 12 to 15 and 10.2% at after 15 years of age (late menarche). Analysis of the menstrual history data revealed that 80.3% had the normal length of menstrual cycle range from 21 to 34 days, 11.6% had shorter (<21) and 8.1% had longer menstrual cycle duration (>34). 90.7% reported regular menstrual cycle and 9.3% reported irregular cycles. 78.2% had the duration of bleeding days *et al.* 6 and 21.8% of the subjects had the duration of bleeding days >6. 21.8% reported to use of medicine to ease the menstrual symptoms. And there was found family history of menstrual related symptoms in 23.5% of the subjects.

Table 2: Frequency and percentage of Premenstrual syndrome on eight scales of Moos Menstrual Distress Questionnaire (n=476)

Scales	No.	Percentage
Pain	437	91.81%
Water Retention	261	54.83%
Autonomus Reaction	287	60.29%
Negative affect	418	87.82%
Impaired Concentration	363	76.26%
Behavior Change	395	82.98%
Arousal	323	67.86%
Control	254	53.36%



The data presented in Table2 reveals that 91.81% girls had Pain, 54.83% water retention, 60.29% Autonomus Reactions, 87.82% Negative Affect, 76.26% Impaired Concentration, 82.98% Behavior Change, 67.86% Arousal, 53.36% Control.

Fig 1: Bar diagram showing Frequency and percentage of Premenstrual syndrome on eight scales of Moos Menstrual Distress Questionnaire

Table 3: Severity of Premenstrual syndrome on eight scales of Moos Menstrual Distress Questionnaire (n=476)

Scales	No PMS	% Age	Mild	% Age	Moderate	% Age	Strong	% Age	Severe	% Age
Pain	39	8.19	173	36.34	196	41.18	65	13.66	3	0.63
Water Retention	215	45.17	149	31.30	70	14.71	28	5.88	14	2.94
Autonomus Reaction	189	39.71	176	36.97	74	15.55	32	6.72	5	1.05
Negative affect	58	12.18	190	39.92	209	43.91	19	3.99	0	0.00
Impaired Concentration	113	23.74	204	42.86	145	30.46	14	2.94	0	0.00
Behaviour Changes	81	17.02	90	18.91	160	33.61	119	25.00	26	5.46
Arousal	153	32.14	184	38.66	110	23.11	23	4.83	6	1.26
Control	224	47.06	191	40.13	55	11.55	6	1.26	0	0.00

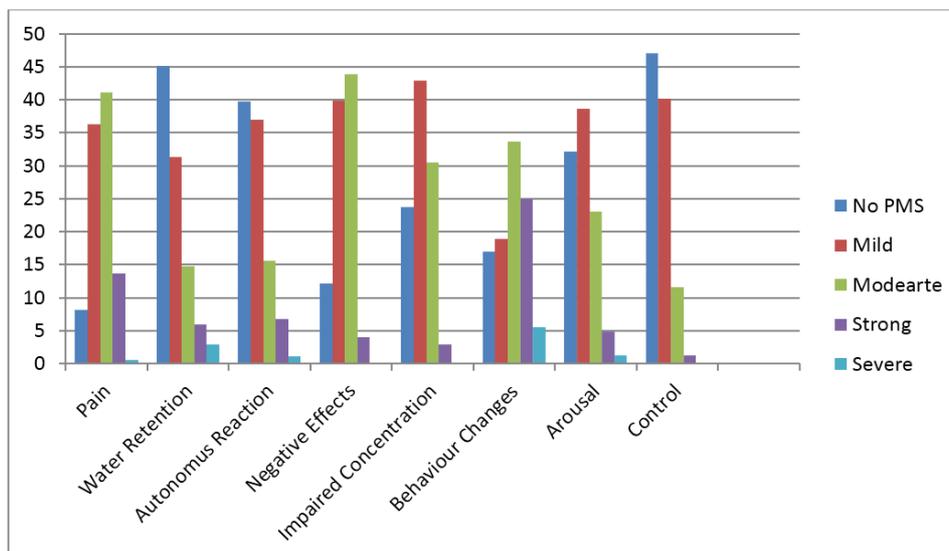


Fig 2: Severity of Premenstrual syndrome on eight scales of Moos Menstrual Distress Questionnaire (n=476)

Data presented in table 3 on the eight Scales of Moos menstrual Distress Questionnaire reveals that 8.19% had no pain, 36.34% had mild, 41.18% had moderate and 13.66% had strong and 0.63% had severe pain. 45.17% have no water retention, 31.30% have mild, 14.71% have moderate, 5.88% have strong and 2.94% have severe water retention. 39.71% reported no autonomus reactions, 36.97% mild, 15.55% moderate, 6.72% strong and 1.05% severe. 12.18% have no negative effects, 39.92% mild, 43.91% moderate, 3.99% strong and 0.00% severe. 23.74 reported no impaired concentration, 42.86% mild, 30.46% moderate and 2.94 strong impaired concentration. 17.02% had no behavior changes, 18.91% mild, 33.61% moderate, 25.00% strong and 5.46% reported severe behavior changes. 32.14% were

reported with no arousal, 38.66% mild, 23.11% moderate, 4.83% strong and 1.26% with severe arousal. 47.06% reported with no control symptoms, 40.13% mild, 11.55 moderate 1.26% strong.

Table 4: Severity of Premenstrual syndrome among the girl students on Moos Menstrual Distress Questionnaire (n=476)

Severity	No.	Percentage
No PMS	11	2.31%
Mild	271	56.93%
Moderate	175	36.76%
Strong	19	3.99%
Severe	0	0
Total	476	100%

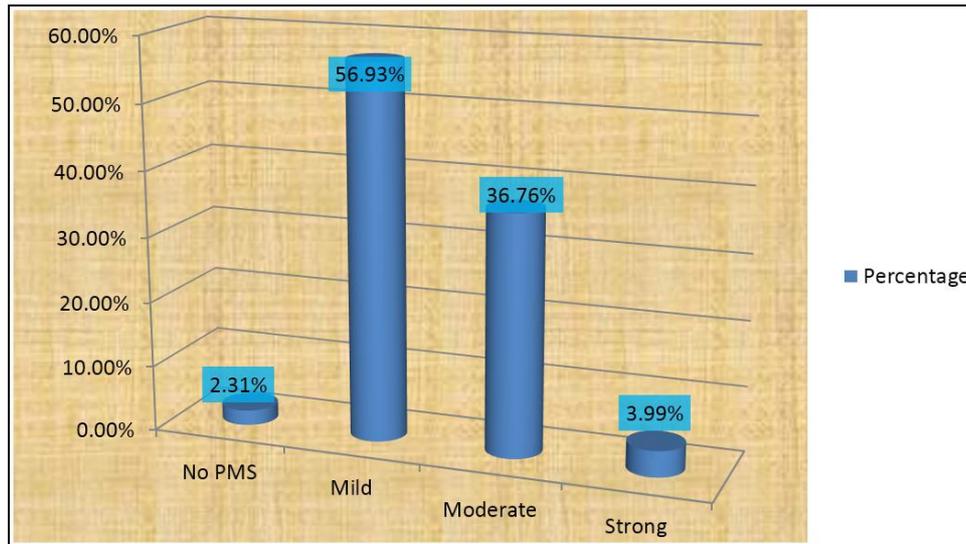


Fig 3: Bar diagram showing percentage of Severity of Premenstrual syndrome among the girl students on Moos Menstrual Distress Questionnaire

Data Presented in the table 4 reveals that the prevalence of PMS among the college girls was 97.69%. Among those 2.31% were having no PMS, 56.93% were diagnosed with mild PMS, 36.76% were having moderate PMS and 3.99% were having strong PMS.

Conclusion

PMS is a common problem among the girls of all age. The present study reveals that there was the high prevalence of PMS i.e. 97.69% among the college girls. Similar findings were reported by (SV Kamat, 2012) [18] 95%, (Rasheed. P, 2003) [14] 96.55%, (Tulika Joshi, 2015) [19] 91%, (Pal SA, 2011) [12] 79.9%, (Rafia Bano, 2013-14) 90% to 96%. Lower prevalence had been reported by (Aman Z, 2005) [4] 53%, Verma *et al.* (50.6%), (Susanta Kumar Pandhy, 2015) [17] 67%, (Pragya Sharma, 2008) [13] 63% respectively. These symptoms were diagnosed in the present study with different severity i.e. 56.93% with mild severity, 36.76% with moderate, and 3.99% with strong severity.

The PMS symptoms affect the quality of life of young college students and reduce their efficiency to deal with daily life activities.

The college students are the future of any country and there is a need to pay attention to their health. Many researchers have been conducted and concluded with the high prevalence of PMS. Management of PMS can be done with different methods. There are many side effects of pharmacological treatment. Complementary and alternatives therapies are available to relieve the symptoms of PMS i.e. homeopathy,

herbal medicines, massage, dietary supplements, exercise and so on. Management of PMS can be done with different methods. First to diagnose its severity accurately. PMS is not life threatening but it can interrupt the quality of life of a woman.

Education related to PMS should be introduced in the health education curriculum, which can help the young students to get aware with menstrual problems especially PMS. Many girls have the PMS but they feel shameful to discuss it with others. Screening should be done in an institution to diagnose the students with PMS and treat them accordingly.

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