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RESEARCH ARTICLE

Awareness, Prevalence and Drug Therapy of Pre-Menstrual Syndrome among the Women of Lahore, Pakistan

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ABSTRACT

Premenstrual syndrome is the combination of various symptoms appearing 3-7 days before every menstrual cycle and is experienced by most of the reproductive age women throughout the globe. A cross-sectional community based study was conducted on a randomly selected population of 1000 menstruating, non-pregnant women of age (15-45 yrs), from various places within Lahore; to determine the Awareness, Prevalence and Drug therapy of premenstrual syndrome. Demographic data, awareness about premenstrual symptoms; their impact on daily life, medicines taken to relieve symptoms and the trend of treatment seeking behaviour were recorded through interview. Data collection form were filled after taking verbal informed consent, results were analyzed on SPSS 15 by applying Pearson chi-square test .A very high 99.3% prevalence of PMS; with most frequent symptoms backache (77.7%), weakness (72.5%), abdominal pain (70.8%) irritability (70.7%), mood swings (66.3%) and anxiety (63.2%); was found among those women. 48.5% were aware of PMS. Premenstrual symptoms have an impact on quality of life of 75.8% of women. 54.8% take medicines for PMS.38.5% take self-medication and NSAIDS (34.6%) are taken most frequently. Hence Premenstrual syndrome is a common problem not even in the west but also in Pakistan. A large population of women here, having one or more premenstrual symptoms have an adverse impact of them on their daily lives. Changing lifestyle, modifying diet, exercises, stress reduction and provision of services by health providers, such as rational drug therapy and counselling by pharmacist can optimize Quality of life and overall health of women suffering from PMS.

KEYWORDS

Premenstrual Syndrome, Awareness, Prevalence, Drug Therapy, Quality of Life

INTRODUCTION

Premenstrual syndrome (PMS) involves the appearance of various physical, psychological, or behavioural symptoms which appear in the luteal phase during every menstrual cycle before menses start and settle with the onset of menstrual flow[1]. Major characteristic of Premenstrual syndrome consists of the follicular phase without symptoms, climax of symptoms during the late luteal or premenstrual phase, and a prompt decrease of symptoms with the beginning of periods[2]. Premenstrual syndrome is the most common health related problem reported by women of reproductive age[3]. Premenstrual syndrome (PMS) is comprised of premenstrual symptoms that are annoying and have a negative impact on a woman's quality of life. Premenstrual dysphoric disorder (PMDD) is the severest form of Premenstrual syndrome, which results in foremost mutilation[4].

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Premenstrual syndrome prevalence ranges from 25 to 90%[5]. Up to 90% of women of child bearing age experience premenstrual syndrome[6]. Almost 40% women have some form of PMS, but only 3-8% have severe psychological symptoms -Premenstrual Dysphoric Disorder (PMDD)[7]. 30%-90% of women report some physical or emotional premenstrual symptoms while only 2% to 15% describe severe or disabling symptoms[8]. The cause of premenstrual syndrome is complex as well as not known. Hormonal level changes during menstrual cycle, dietary intake and low levels of certain minerals and vitamins may be the cause of premenstrual syndrome[9]. The physiology as well as pathology of premenstrual syndrome is that the endocrine, serotonin and reproductive systems act together to control an individual's behavior. PMS appears in women who are more vulnerable to the fluctuations in estrogen and progesterone levels during the menstrual cycle and that hormonal imbalance also acts on serotonin release and functioning in those women[10]. Diagnosis of PMS is based on the appearance of at least one of the emotional or physical symptoms during the five days before menses start; must be there from last three menstrual cycles and should disappear with the start of the menstrual flow[11]. The diagnosis of premenstrual syndrome must be done on the basis of the recurrence of symptoms during the premenstrual phase and their absence in postmenstrual phase[12]. Women must keep a date book with a list of symptoms and the days in which symptoms appear or disappear so that it can be taken to physician and it can be helpful in diagnosis of Premenstrual syndrome[13]. Symptoms of PMS can be grouped into four subtypes: PMS-A (Anxiety), includes symptoms as mood swings, irritability. PMS-H (Hydration) includes swollen extremities, breast softness, PMS-C (Cravings) involve craving for salty or sweet foods, and PMS-D (Depression) involves symptoms like crying, forgetfulness, Palpitations and depression[14]. A number of symptoms may be observed in women as an outcome of Premenstrual syndrome including depression, emotional fluctuations, irritation, anxiety, sleep disorders, increase in appetite, sensitivity and pain in the breasts, bloating, weight gain, stomach ache, headache and fatigue[15]. Premenstrual symptoms variation exist among women and are related to social and cultural aspects, such as cultural or racial background, urbanization, marital status, having children or not, education, and occupation[16]. Mild physiological symptoms occur in more or less than 95% of all the women of reproductive age and about only 5% of women having premenstrual symptoms make a complaint of such symptoms to be so severe that their lives are completely disturbed[17]. Premenstrual symptoms have a repeated and a regular pattern but may vary in their quantity and intensity. Symptoms are considered to be the character of syndrome, when the affected women describe some hindrance in routine activities at work, at school or in social activities[18]. Premenstrual symptoms begin in every women with menarche, but care-seeking women are between late twenties and early thirties who present these problems when suffering from many other chronic problems otherwise the women do not go for PMS treatment themselves[19]. Premenstrual syndrome is a common and up till now an unnoticed or untreated problem, which adversely affects women health as well as performance and has become a major public health problem. In all over the world Premenstrual syndrome affects millions of women during their reproductive age[20]. Most women who seek medical treatment for PMS can be given some type of treatment. If symptom relief does not occur with the initial treatment, another treatment should be tried[21]. For women with less severe symptoms modification in diet, exercise, or stress reduction alone or in combination with medication are helpful in PMS reduction. Second-line treatments include anxiolytics, spironolactone, oral contraceptives, nutritional supplements, cognitive behavioral therapies and bright light therapy. Gonadotropin releasing hormone analogues are highly effective but are not a treatment of choice for Premenstrual syndrome because of the risks of a low estrogen levels[11]. The use of medicines is required only in the premenstrual phase of the menstrual cycle, in which symptoms appear. Recurrent nature of symptoms is of major interest in Premenstrual syndrome, because it also

includes a clear symptom-free interval every month[22]. Many non-pharmacological treatments have been described for Premenstrual syndrome, but few have confirmed efficacy[23].

Therapeutic plans for Premenstrual syndrome ranges from the traditional treatments like lifestyle and stress management to the treatments with psychotic medications and hormonal therapy or surgical methods to reduce ovulation or ovarian function for the women who are PMS resistant. Up till now no single treatment has been established to be effective for all women while all of these treatments are successful in relieving symptoms of some of the women treated with them[24]. Nonprescription products may provide relief to patients with mild-to-moderate symptoms of PMS.

All the FDA-approved nonprescription painkillers are approved for the pain or cramps associated with PMS and dysmenorrhea. Diuretics are also safe and effective in relieving PMS associated temporary water weight gain, bloating and swelling[25]. Women should be referred to a health professional when nonprescription medicines do not give much relief[26]. Medicines as Spironolactone, alprazolam, NSAIDs, and gonadotrophin analogues are used to treat the main physical and psychological symptoms of Premenstrual syndrome. Surgery is indicated only if other gynecological problems also exist along with PMS[27]. PMS can be treated with medicines giving symptomatic relieve or, most recently by using medicines that change the levels of serotonin, but their use in the young women specially in teenagers is not up till now suggested[28].

Efficacy of the Serotonin reuptake inhibitors in treating physical and psychological premenstrual symptoms may benefit individual sufferers as well as others who have the economic and social load of linked functional impairment[29]. Treatment efficacy for PMS or PMDD are based on acute treatment plan of 2 to 3 months duration. PMS symptoms return within several months if medication is stopped[30]. Other than pharmaceutical management, women should be given education to follow self care measures to cope with PMS[31]. Premenstrual Syndrome is an intolerable condition, causing social and occupational destruction in the lives of affected women[32].

Women suffering from Premenstrual syndrome have the greatest impairment in their relationships and have compromised work levels[33]. Premenstrual symptoms are an obstacle in normal daily responsibilities of a woman, reduces her work productivity and as a result greater number of workdays are missed because of these health reasons[34]. The utilization of health care services is also increased with an increase in premenstrual symptom severity, as the visits to the emergency department, obstetrician or gynecologist, or alternative medicine providers are also increased[35].

There is no single cause of Premenstrual Syndrome, and it is an imbalance caused because of many factors involved that requires an entire plan to reduce the contribution of a number of causative factors. The pharmacist can act as a health counselor for Premenstrual syndrome, afar from the limited role of dispensing drugs[36].

Premenstrual syndrome has many adverse effects on the personal and social life of women. Women in western countries are very well aware of the term premenstrual syndrome and women over there look out for medical treatment of this major health problem. However the scenario in Pakistan and other countries is not the same. Women here are unaware of this disorder because of many social and religious taboos, that's why they rarely discuss and seek medical advice for PMS.

Pharmacist can play an important role by educating and counselling females about this syndrome. Hence an attempt was made to study the awareness, prevalence and drug therapy of Premenstrual syndrome in Lahore, Pakistan.

METHODS

A Cross sectional community based survey was carried out from July 2011 to December 2011 to study the Awareness, Prevalence and Drug therapy of Premenstrual Syndrome in Lahore, on a group of randomly selected female population

from several places within Lahore. A sample of 1000 non pregnant married as well as unmarried women presently menstruating and having regular periods, of reproductive age (15-45 years) were selected for data collection. Pregnant women, Girls before their menarche, Postmenopausal women and women with medical disorders such as thyroid disease, irregular menstrual cycle and psychiatric problems like depression were excluded from the study. Exclusion criteria were strictly followed to prevent interference in result interpretation.

A well structured data collection form prepared, was used for data collection and data was collected by doing face to face interview, after getting the verbal consent from selected females. A few number of women completed the questionnaire themselves. Self reported data of the participants was documented in data collection forms.

The data collection form comprised of questions based on patient demography, 30 Premenstrual symptoms and the questions about the presence or absence of symptoms of PMS as well as their rating as being mild, moderate or severe, duration since experiencing those symptoms, the impact of those symptoms on quality of life of women, the medicines as well as remedies and dietary intake by women to relieve those symptoms and regarding the awareness level of females about PMS in Lahore.

Data collected was analyzed by using Statistical package for social sciences version 15. Frequency and percentages were calculated for all the variables. Pearson Chi square test was applied to compare the associated variables. Mean and Standard Deviation were calculated for age of participants, menarche age, length of periods, number of years since experiencing symptoms, number of days before periods in which symptoms appear, continuation of symptoms during periods and duration on being medication for PMS . P-value <0.05 was set as the level of significance for interpreting the results. Results were considered non significant at P>0.05.

RESULTS AND DISCUSSION

Table 1: Demographic characteristics of women participants

Variables		Frequency	%
Marital status			
	Single	569	71.1
	Married	231	28.9
Age(yrs)			
	15-20	217	27.1
	21-25	324	40.5
	26-30	78	9.8
	31-35	66	8.3
	36-40	57	7.1
	41-45	58	7.3
Qualification			
	Under Matriculation	153	19.1
	Matriculation	62	7.8
	Intermediate	110	13.8
	Graduation	328	41.0
	Masters	118	14.8
	Above	29	3.6
Socio-economic class			
	Lower class	145	18.1
	Middle class	559	69.9
	Upper class	96	12.0
Area			
	Urban	678	84.8
	Rural	122	15.3

n=800

Table 2: Prevalence of Premenstrual Syndrome in Lahore

Variables	Frequency	%
Prevalence of PMS	794	99.25
Non-prevalence of PMS	6	0.75

n = 800

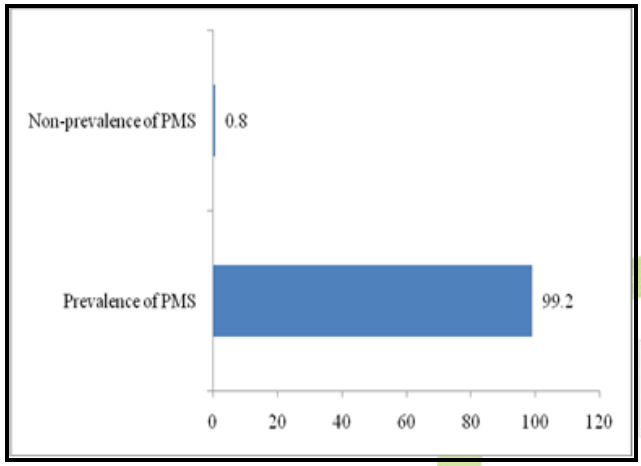

Figure 1: Prevalence and Non-Prevalence of PMS in Lahore

Table 3: Prevalence of Premenstrual Syndrome in women of different ages and marital status

Variables	PMS	%	Non-PMS	%
Age (yrs)				
15-20	217	27.3	0	0.00
21-25	321	40.4	3	0.38
26-30	77	9.7	1	0.12
31-35	66	8.3	0	0.00
36-40	55	6.9	2	0.25
41-45	58	7.3	0	0.00
Marital status				
Single	565	71.2	4	0.50
Married	229	28.8	2	0.25

n=794

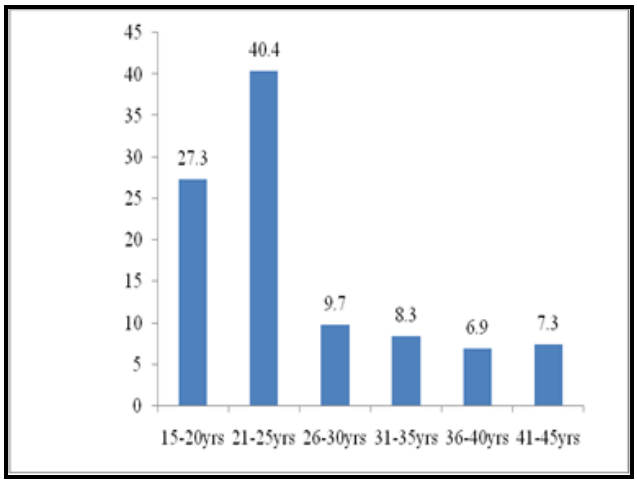

Figure 2: Age wise prevalence of PMS

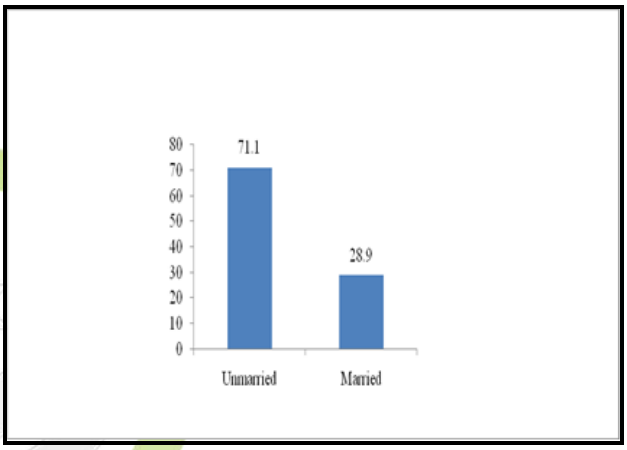

Figure 3: Marital status of women participants

Table 4: Prevalence of PMS

Variables	P-value	Chi-square value
Prevalence or non-prevalence of PMS has an association with age of women	0.001	61.064
Prevalence or non-prevalence of PMS has an association with length of period days women have.	0.001	25.542
n=800 Calculated by Pearson Chi-square test. P-value is statistically significant at P<0.05		

Table 5: Prevalence of PMS Symptoms

PMS Symptoms	Mild			Moderate			Severe			None	
	n	%		N	%		n	%		n	%
PMS-A											
Anxiety	205	25.8		269	33.6		30	3.8		290	36.5
Irritability	155	19.5		352	44.3		55	6.9		232	29.2
Mood swings	258	32.5		168	21.2		100	12.6		268	33.8
Nervous Tension	151	19.0		75	9.4		131	16.5		437	55.0
PMS-C											
Appetite increase	144	18.1		85	10.7		4	0.5		561	70.7
Headache	114	14.4		261	32.9		42	5.3		377	47.5
Fatigue	194	24.4		152	19.1		69	8.7		379	47.7
Dizziness/Fainting	55	6.9		80	10.1		57	7.2		602	75.8
Palpitations	110	13.9		85	10.7		8	1.0		591	74.4
PMS-D											
Depression	78	9.8		292	36.8		9	1.1		415	52.3
Crying	62	7.8		93	11.7		39	4.9		600	75.6
Forgetfulness	63	7.9		54	6.8		6	0.8		671	84.5
Insomnia	143	18.0		89	11.2		41	5.2		521	65.6
Confusion	174	21.9		33	4.2		29	3.7		558	70.3
PMS-H											
Fluid retention	209	26.3		120	15.1		31	3.9		434	54.7
Weight gain	164	20.7		97	12.2		33	4.2		500	63.0
Swollen extremities	84	10.6		44	5.5		31	3.9		635	80.0
Breast tenderness	65	8.2		288	36.3		26	3.3		415	52.3
Abdominal bloating	68	8.6		127	16.0		229	28.8		370	46.6
PMS-O											
Oily skin	64	8.1		246	31.0		106	13.4		378	47.6
Acne	149	18.8		152	19.1		15	1.9		478	60.2
Constipation	98	12.3		62	7.8		167	21.0		467	58.8
Diarrhea	58	7.3		62	7.8		57	7.2		617	77.7
Backache	90	11.3		343	43.2		184	23.2		177	22.3
Hives	164	20.7		108	13.6		11	1.4		511	64.4
Weakness	183	23.0		281	35.4		112	14.1		218	27.5
Joint pain	149	18.8		235	29.6		42	5.3		368	46.3
Muscle pains	112	14.1		239	30.1		98	12.3		345	43.5
Abdominal pain	102	12.9		318	40.2		140	17.7		232	29.3
Feeling unable to cope with ordinary demands	268	33.8		96	12.1		121	15.2		309	38.9
During 1st two days of Periods											
Menstrual Cramps	133	16.8		179	22.5		197	24.8		285	35.9
Backache	202	25.4		169	21.3		312	39.3		111	14.0

n = 794

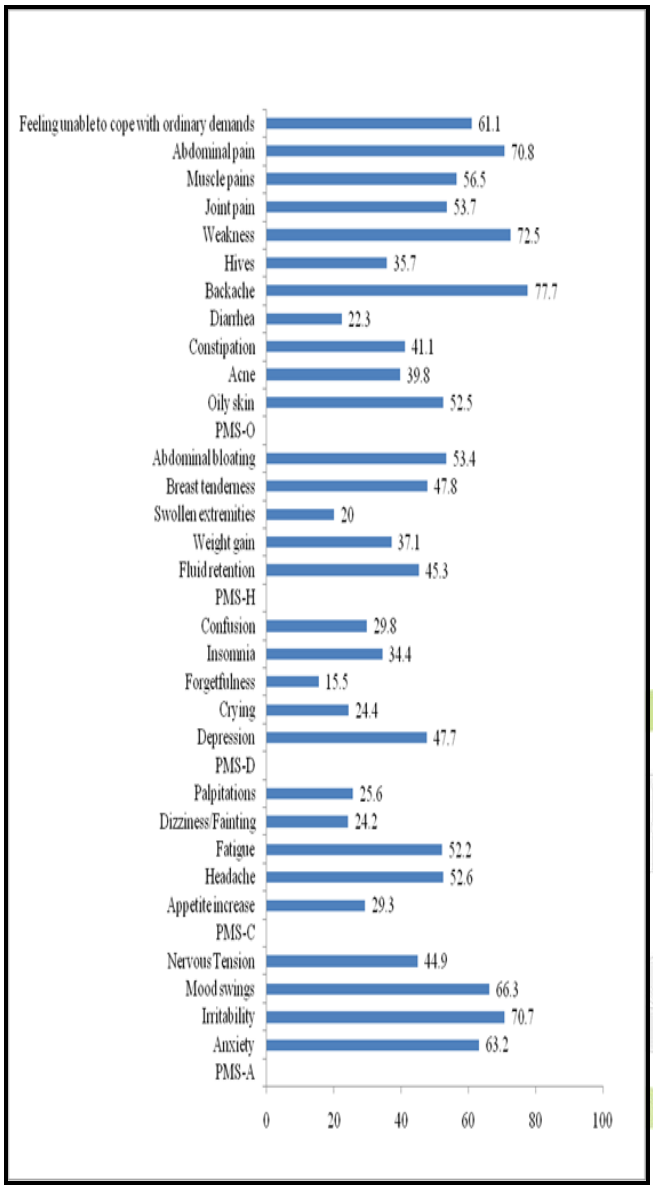

Figure 4: Prevalence and distribution of Premenstrual Symptoms in women

Table 6: Awareness of PMS among women

Variables	Frequency	%
Noticed/ Discussed Premenstrual problems before		
Yes	455	57.3
No	339	42.7
Discussed with		
Dr	6	0.8
Friend	91	11.5
Mother	316	39.8
Any other	39	4.9
None	342	43.1
Source of Guidance/Education on PMS		
Mother	308	38.8
Friends	53	6.7
Sister	60	7.6
Self awareness	17	2.1
Media/Internet	5	0.6
Any other	11	1.4
None	340	42.8
Benefit of Education on PMS		
Yes	359	45.2
No	96	12.1
Awareness of PMS before survey		
Yes	385	48.5
No	409	51.5
Awareness of PMS raised after Survey		
Yes	765	96.3
No	29	3.7

n =794

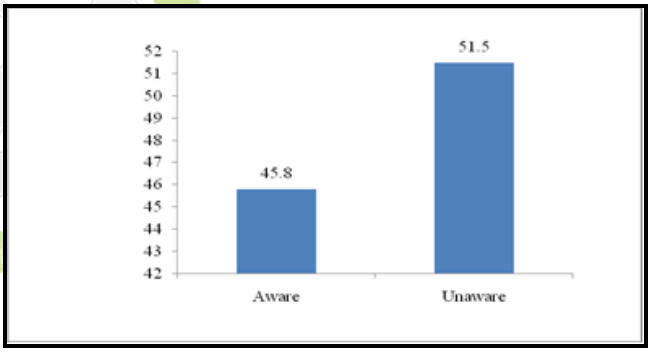

Figure 5: Awareness of Premenstrual Syndrome among women

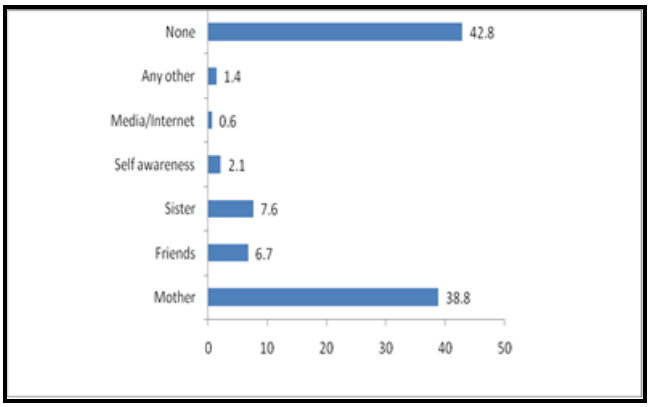

Figure 6: Sources of Guidance/Education on PMS among women

Table 7: Awareness of PMS and associated variables

Variables	P-value	Chi-square value
Women age is associated with their awareness level of PMS	0.000	73.327
Marital status is associated with women awareness level of PMS	0.002	9.866
Qualification is associated with women awareness level of PMS	0.000	155.658
Socioeconomic status is associated with their awareness level of PMS	0.000	16.716
Area (urban/rural) from where the women belong is associated with their awareness level PMS	0.000	15.753
Source of education or guidance on experiencing PMS for the first time is associated with benefit of that education received	0.000	747.505
n=794 Calculated by Pearson Chi-square test. P-value is statistically significant at P<0.05		

Table 8: Drug Therapies taken by women for PMS

Variables	Frequency	%
Women taking Medicines for PMS		
Yes	435	54.8
No	359	45.2
Treatment seeking behaviour		
Dr prescribed	129	16.2
Self medicine	306	38.5
Drug Therapy		
Oral Contraceptive Pills (hormonal preparations)	23	2.9
Antidepressant or Anxiolytics	11	1.4
Multivitamins	53	6.7
Iron prep	27	3.4
Painkillers: NSAIDS	275	34.6
More than one	23	2.9
Others	18	2.3
Alternative medicine	5	0.6
Durations on being Medication for PMS(yrs)		
1-10	320	40.3
11-20	115	14.5
Frequency of Medicine intake(yrs)		
On required basis	265	33.4
Regularly in each cycle	170	21.4

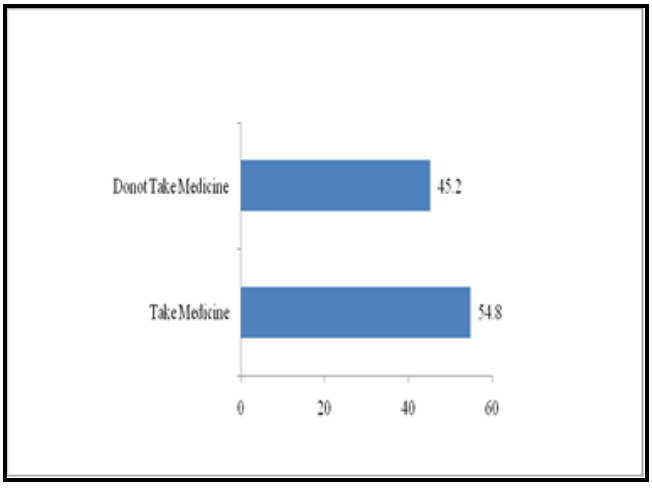

Figure 7: Women taking medicines for PMS

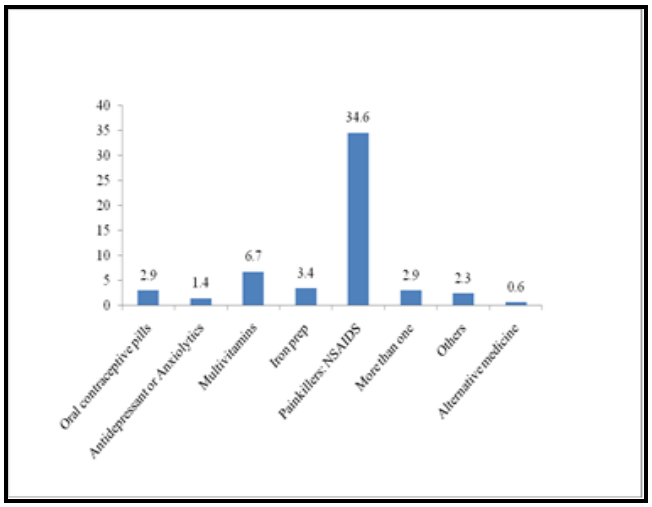

Figure 8: Drug therapies taken for PMS by women

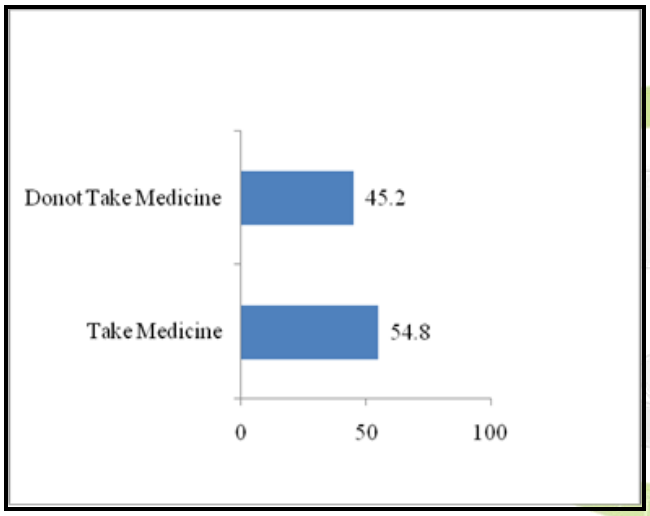

Figure 9: Frequency of medicine intake by women

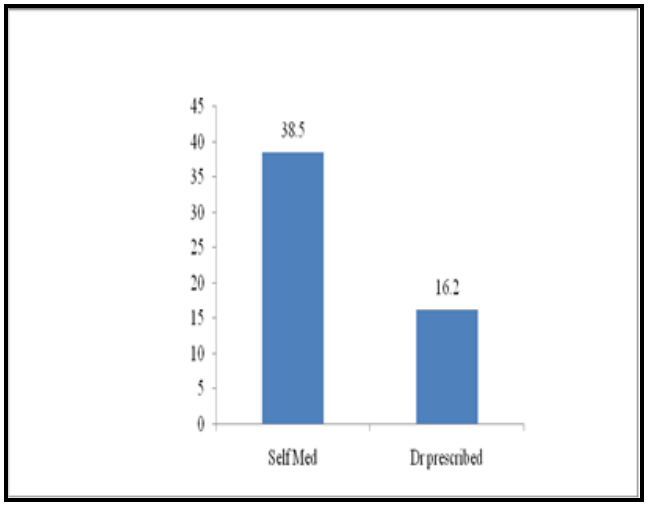

Figure 10: Trend of treatment seeking behavior for PMS

Table 9: Association between Medication intake and Premenstrual Symptoms

Variables	P-value	Chi-square value
Effect of medicine intake on PMS		
Medicine intake effects Anxiety	0.000	59.905
Medicine intake effects Irritability	0.000	67.139
Medicine intake effects Mood swings	0.000	71.738
Medicine intake effects Headache	0.000	85.550
Medicine intake effects Depression	0.000	91.444
Medicine intake effects Breast tenderness	0.000	98.666
Medicine intake effects Abdominal bloating	0.000	65.567
Medicine intake effects Backache	0.000	80.760
Medicine intake effects Weakness	0.000	78.640
Medicine intake effects Abdominal pain	0.000	72.085
Medicine intake effects Feeling unable to cope with ordinary demands	0.000	99.145
n=794 Calculated by Pearson Chi-square test. P-value is statistically significant at P<0.		

Table 10: Associations of Drug therapy with PMS

Variables	P-value	Chi-square value
Trend of medicine intake for PMS		
Medicine intake by women is associated with qualification of women	0.002	19.045
Medicine intake by women is associated with socioeconomic class	0.002	12.142
Medicine intake by women is associated with age of women	0.000	45.062
Medicine intake by women is associated with marital status of women	0.000	12.58
Medicine intake has association with no. of days before periods in which symptoms appear	0.002	22.99
Duration of medicine intake for PMS		
Duration of medicine intake is associated with duration since experiencing symptoms	0.001	19.206
Treatment seeking behavior		
Trend of taking Self/Dr prescribed medicines is associated with Qualification of women	0.002	28.151
Trend of taking Self/Dr prescribed medicines is associated with age of women	0.000	116.109
Trend of taking Self/Dr prescribed medicines is associated with marital status of women	0.000	61.269
Frequency of medicine intake		
Regular/ on needed basis medicine intake is associated with qualification	0.002	27.324
Regular/ on needed basis medicine intake is associated with age.	0.000	68.108
Regular/ on needed basis medicine intake is associated with marital status	0.000	17.444
n=794 Calculated by Pearson Chi-square test. P-value is statistically significant at P<0.05		

DISCUSSION

Premenstrual syndrome has a considerable impact on a large proportion of women. The purpose of this study was to find out how the women aged 15-45yrs in Lahore, experience PMS, the medicines they use to manage this syndrome and their awareness about this major health issue. According to the best of my knowledge this is the first and only study which has discussed the awareness, prevalence and drug therapy of PMS in Lahore, Pakistan. The study showed that premenstrual problems are common among females of Lahore. A high prevalence of self-reported PMS was found in women of Lahore because the women having even a few symptoms also mentioned the presence of the syndrome.1000 data collection forms were distributed out of which successfully completed forms by doing interview were 800 (response rate = 80%), Refusals were 53, un complete forms were 14 and 133 forms were not returned (non respondents =20%). Out of 800 respondent females; 231 (28.9%) were married and 569(71.1%) were single and in both premenstrual syndrome cases were present, so finding is that there was no difference in the prevalence of PMS between women with and without a partner. This finding abolishes an old perception found in

Pakistani society that when a woman marries, she gets better and her problems associated with menstrual cycle gets resolved. The age of participants ranged from 15-45 yrs (x= 25.30yrs, [SD] =7.75yrs). Women participants in each age group were 217(27.1%) of 15-20yrs, 324(40.5%) of 21-25yrs, 78(9.8%) of 26-30yrs, 66(8.3%) of 31-35yrs, 57(7.1%) of 36-40 yrs and 58(7.3%) of age 41-45yrs .Women of various educational levels ranging from uneducated and under-matriculation 153(19.1%), matriculation 62(7.8%), intermediate 110(13.8), graduation 328 (41%), masters 118(14.8) and above 29(3.6%) were there. Women participants were from different socioeconomic status ranging from lower socioeconomic class were 145 (18.1%), middle class 559 (69.9%), to upper class 96 (12%).Mostly women belonged to urban Lahore 678(84.8%) while rest 122 (15.3%) belonged to rural areas. Menarche age of all the women was from 9 to 16 yrs (x=12.80, [SD] =1.36). Length of the period days was between 3 to 10 days (x= 5.84 days, [SD] = 1.45 days). All the women 800(100%) had regular menstruation as women having irregular menses were not included in study. Not even a single woman reported any other problem like abnormal uterine bleeding, depression or thyroid dysfunction, which may be an underlying cause of PMS. All the married women participants were non pregnant 231(100%). Out of 231 married ladies 52(22.5%) were using contraceptive pills, 30(13%) were using intrauterine device (IUD), and 81(35.1%) were using other contraceptive methods like condoms, while 68(29.4%) women were using no contraceptive among married women. 218(94.3%) married women noticed a change in their PMS symptoms as well as severity after marriage while 11(4.76%) married women did not notice any change in PMS after their marriage or after having children .2(0.25%) married women within age group 36-40yrs were among non- prevalent PMS respondents. Married women who noticed a change in PMS symptoms as well as their severity reported that their premenstrual problems have been reduced 126 (54.5%), aggravated 38 (16.4%), and 65 (28.1%) had no change after marriage and child birth as compared to the their unmarried life. This is reflected by the fact that out of 800 women surveyed, 794(99.3 %) women had Premenstrual Syndrome; as they reported one or more symptoms of varying degrees. Indeed, only 6(0.8) % were having no premenstrual symptom. Prevalence of PMS in different age groups showed that among 15-20 yrs of females 217(27.3%) prevalent cases were found, among 21-25 yrs aged females 321(40.4%) out of 324 females were having one or more symptoms, among 26-30 yrs aged women out of 78, 77 (0.12%) were prevalent PMS cases, among 31-35 yrs aged women all the 66 (8.3%) had PMS, within age group 36-40 yrs out of 57 women 55(6.9%) and within age group 41-45 yrs all the 58 (7.3%) women were having one or more than one Premenstrual symptoms. And according to marital status out of 569 unmarried women 565(71.2%) were PMS prevalent cases while only 4(0.50%) were having no premenstrual symptoms. Among 231 married women from Lahore only 229(28.8%) had PMS while only 2(0.25%) had no symptoms. A variety of symptoms were experienced and reported by those 794(99.3%) premenstrual syndrome prevalent women, out of total 800 women participants from all over Lahore. Results have declared that premenstrual syndrome is not a western problem as it's prevalence among eastern women is quite similar to the western women. It was reported that most prevalent symptoms in women of Lahore were PMS-A: Irritability 562 (70.7%), Mood swings 526 (66.3%), Anxiety 504 (63.2%), Nervous tension 357(44.9%).PMS-C: Headache 417(52.6%), Fatigue 415 (52.2%), Appetite increase 233 (29.3%), Palpitation 203 (25.6%), Dizziness/Fainting 192 (24.2%). PMS-D: Depression 379 (47.7%), Insomnia 273 (34.4%), Confusion 236 (29.8%), Crying 194 (24.4%), Forgetfulness 123 (15.5%). PMS-H: Abdominal bloating 424(53.4%), Breast tenderness 379 (47.8%), Fluid retention 360 (45.3%), Weight gain 294 (37.1%). PMS-O: Backache 617 (77.7%), Weakness 576 (72.5%), Abdominal pain 560 (70.8%), Feeling unable to cope with unable demands 485 (61.1%), muscle pains 449 (56.5%), Joint pains 426 (53.7%), Oily skin 416 (52.5%), Constipation 327(41.1%), Acne 316

(39.8%), Hives 283 (35.7%), and Diarrhea 177 (22.3%). After onset of menses as a continuation of Premenstrual symptoms women reported menstrual cramps 509 (64.1%) and backache 683(86%). Women having premenstrual symptoms were experiencing above symptoms since 1 to 30 yrs (x=6.98 yrs, [SD] = 6.11 yrs) and they reported that the premenstrual symptoms appear in days before onset of menstruation ranging from 1 to 10 days (x= 2.85 days, [SD] =1.89 day). In 273 (34.4%) of women the premenstrual symptoms disappear soon after the menstrual flow starts, the symptoms does not continue even for a single day after periods start. While in 521 (65.6%) women the premenstrual symptoms continue for 1 to 4 days within periods (x= 3.11 days, [SD] = 1.48 days). Only 455(57.3%) women noticed or discussed these problems with their mothers 316 (39.8%), friends 91(11.5%), any other person like husband 39(4.9%) and doctor 6 (0.8%). While 342 (43.1%) women never discussed premenstrual symptoms and their impact on their quality of life with anyone .Sources of guidance or education on premenstrual syndrome when women having PMS, experienced it for the very first time were mothers 308(38.8%), sisters 60(7.6%), friends 53(6.7%), self awareness 17(2.1%), media or internet 5(0.6%) and any other person like doctor/pharmacist/husband 11(1.4%). Medicines, though more effective were used only by one half of the women. From within 794women having PMS only 435(54.8%) were taking medicines, while 359(45.2%) were taking no medicine. Out of 435 women who were taking medicines to relieve or reduce premenstrual symptoms, 170(21.4%) take medicines regularly during each cycle, and 265(33.4%) women take the medicines when needed.306(38.5%) women in Lahore take self medication for relieving their premenstrual symptoms while only 129(16.2%) take doctor prescribed medicines. NSAIDS 279(34.6%) were the most commonly used class by females in Lahore for Premenstrual syndrome. 53(6.7%) were taking multivitamins, 23(2.9%) were taking contraceptives, 27(3.4%) were taking iron supplements (Table9), 11(1.4%) antidepressants, 18(2.3%) were taking other medicines like antispasmodics, muscle relaxants, diuretics etc (Table9), 23(2.9%) were taking more than one of above medicines in combination. Only 5(0.6%) were taking alternative medicines. Women who were taking medicines for PMS were taking them from last 1 to 3 yrs(x= 2.04 yrs, [SD] = 0.92). This indicates poor access or awareness of available effective treatments. Home remedies were being frequently used possibly due to their effectiveness in PMS. 548(69%)women were taking home remedies like hot drinks 293(36.9%), hot water bottles 97(12.2%), hot eatables 68(8.6%) and 90(11.3%) were taking all of the above remedies.307(38.7%) of females were taking a balanced diet and 487(61.3%) females were not taking a balanced diet.616(77.6%) women said that healthy/balanced diet relives their Premenstrual symptoms while 178(22.4%) said that good dietary intake does not relieve/prevent premenstrual syndrome. Out of 794 women suffering from PMS 385(48.5%) had awareness of premenstrual syndrome while 409(51.5%) of the respondents were unaware of the PMS. Prevalence or non-prevalence of PMS has an association with age of women (p=0.001) (Pearson Chi-square = 61.064). Prevalence or non-prevalence of PMS has an association with length of period days women have (p=0.001) (Pearson Chi-square = 25.542). Marital status of females has a significant association with contraceptive use (p=0.000) (Pearson Chi-square =484.246). Socioeconomic status of females has a significant association with method of contraception they use (p=0.000) (Pearson Chi-square =36.650). Area (urban/rural) to which women belong has a significant association with method of contraception they use (p=0.004) (Pearson Chi-square = 13.090). Use of different contraceptive methods by married women has a significant association with change in PMS severity and impact (p=0.000) (Pearson Chi-square= 494.56). Age of women has a significant association with trend of medicine intake for premenstrual syndrome (p=0.000) (Pearson Chi-square = 45.062). Marital status of women has a significant association with trend of medicine intake for premenstrual syndrome (p=0.000) (Pearson Chi-square =12.58). Qualification of

women has a significant association with trend of medicine intake for premenstrual syndrome (p=0.002)(Pearson Chi-square = 19.045) .Socioeconomic class to which a woman belongs is highly associated with trend of medicine intake for premenstrual syndrome (p=0.002)(Pearson Chi-square =12.142). Number of days before periods start in which symptoms appear has a significant association with trend of medicine intake for premenstrual syndrome (p=0.002) (Pearson Chi-square =22.99). Qualification of women has a significant association with trend of taking self medication/Dr prescribed medication for premenstrual syndrome (p=0.002) (Pearson Chi-square = 28.151). Age of a woman has a significant association with trend of taking self medication/Dr prescribed medication for premenstrual syndrome (p=0.000) (Pearson Chi-square =116.109). Marital status of a woman has a significant association with trend of taking self medication/Dr prescribed medication for premenstrual syndrome (p=0.000)(Pearson Chi-square =61.269). Qualification of women has a significant association with their behaviour of taking regular/ when required medication for premenstrual syndrome (p=0.002) (Pearson Chi-square = 27.324). Age of a woman has a significant association with their behaviour of taking regular/when required medication for premenstrual syndrome (p=0.000) (Pearson Chi-square = 68.108) .Marital status of a woman has a significant association with their behaviour of taking regular/ when required medication for premenstrual syndrome (p=0.000) (Pearson Chi-square =17.444). Duration of medication intake for PMS is significantly associated with duration since experiencing the symptoms (p=0.001) (Pearson Chi-square = 19.206). Qualification of women has association with use of home remedies (p=0.000) (Pearson Chi-square = 78.891).Marital status of women has association with use of home remedies (p=0.000) (Pearson Chi-square = 31.576). Age of respondents is significantly associated with their awareness level about premenstrual syndrome (p=0.000) (Pearson Chi-square = 73.327). Marital status of women is significantly associated with their awareness level about premenstrual syndrome (p=0.002) (Pearson Chi-square = 9.866). Education level of women is significantly associated with their awareness level about premenstrual syndrome (p=0.000) (Pearson Chi-square = 155.658). Socioeconomic status of women is significantly associated with their awareness level about premenstrual syndrome (p=0.000) (Pearson Chi-square = 16.716). Area (urban/rural) from where the women belongs to is significantly associated with their awareness level about premenstrual syndrome (p=0.000) (Pearson Chi-square = 15.753). Source of education or guidance on experiencing PMS for the first time is significantly associated with benefit of that education received (p=0.000) (Pearson Chi-square = 747.505). Premenstrual syndrome and its symptoms are thought to be a usual thing in the life of every woman, so this problem remains unnoticed and untreated throughout the reproductive age. Women with more education and level of severity of premenstrual syndrome had a better outlook towards taking treatment. Health professionals must treat and counsel women to reduce their suffering from premenstrual syndrome. Educational programmes to increase the awareness of women regarding this syndrome and on safe and effective use of medicines for premenstrual syndrome, can improve the whole scenario. Further research in this area should take in consideration of awareness, and treatment seeking behaviour of women, as well as their access to health care providers and quality of life improvement with various treatment options readily available.

CONCLUSION

It is concluded from the study that Premenstrual syndrome is a very common problem among the females of child bearing age in Lahore, irrespective of their marital status. Hence it is not a western disease as assumed earlier. A large percentage of women were not aware of PMS, perhaps it was due to the lack of information on premenstrual problems and introverted attitude of women belonging to a society where such issues are not discussed and disclosed. Attempts should be made in order to increase women awareness about this distressing health issue and women must be encouraged to reveal and seek treatment,

so that they may not suffer quietly. Most of the women do not ask for a medical treatment and take self treatments for PMS. As mothers were the prime source of knowledge and information provider in this study, health care providers should involve mothers in general discussions about premenstrual problems and how to deal with them so that the given information can be conveyed to their daughters in the most appropriate manner. Lifestyle changes, diet modification, exercises, stress reduction and provision of services by health professionals, such as rational drug therapy and counselling by pharmacist can optimize Quality of life and overall health of women suffering from Premenstrual syndrome.

RECOMMENDATIONS

Premenstrual syndrome and its associated symptoms are considered as a normal part of a woman life, so as a whole it remains an unshared and untreated entity throughout her life. In order to decrease the prevalence as well as incidence of Premenstrual syndrome and to improve the women's quality of life, attention must be paid to this subject in Pakistan and necessary measures must be suggested.

Community health providers in Pakistan must approach women themselves, especially to those having a poor background, to minimize their agony and suffering from premenstrual syndrome.

In spite of an increased awareness about various health issues, the number of women in search of medical opinion or treatment for premenstrual syndrome is not very large, since the discussion of problems associated with menstruation, and its related complications are thought to be a taboo in Pakistani society. Efforts should therefore be made to increase women awareness regarding this issue, so that the women of Pakistan may not become a mute sufferer.

Education and Awareness regarding safe and effective use of medicines such as non-steroidal anti-inflammatory drugs in PMS can be provided to school, college and university girls, housewives and employed women through separate routes.

In Pakistani culture it is a strong belief that if a woman is having menstrual problems or any psychic disorder, her marriage can put all of them to an end. But in fact it is not true so education and treatment options for Premenstrual syndrome must be provided to all women despite of their marital status, though the severity or frequency may change but there is not much difference in the prevalence or in the risk of PMS among women with or without a mate.

Female pharmacists must contribute in women counselling in order to improve their Quality of life. Female patients can come to the pharmacist with questions related to safe and effective treatment options for the premenstrual problems.

Further research on PMS should focus on the awareness and treatment seeking behaviour of women, as well as their access to health care providers and quality of life improvement with various treatment choices readily available to them for Premenstrual syndrome in Pakistan.

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