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Original Research Article

Premenstrual syndrome, coping mechanisms and associated factors among female students of a health sciences campus in South India

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ABSTRACT

Background: Premenstrual syndrome (PMS) is a set of distressing physical and psychological symptoms occurring cyclically during the luteal phase of each menstrual cycle that begin a few days before menstruation and resolves within a few days of the onset of menstruation. This study focuses on finding the prevalence of premenstrual symptoms among university students and also to assess the socio-demographic, dietary and lifestyle factors associated with premenstrual symptoms.
Methods: An institutional based cross-sectional study was conducted were participants were asked to fill a premenstrual syndrome scale (PMSS) questionnaire based on which they were categorised as 'positive PMS' or 'negative PMS'. Any coping mechanism applied were also reported.
Results: A total of 202 participants were part of the study of which 137 (67.8%) of them had premenstrual symptoms and of which 49 (79%) of them had a familial history of PMS. Menstrual related factors like familial history of PMS, perceived menstrual pain intensity, quantity of menstrual bleed, Duration of symptoms in the premenstrual periods were found to be significantly associated with PMS. Mood swings, abdominal cramps and generalised aches and pains were predominant symptoms reported by the students. Taking rest, sleeping and listening to music were the commonly applied coping mechanisms to relieve the symptoms.
Conclusions: The prevalence of PMS is on the higher side i.e. 68.3% compared to many studies around the world. The health seeking behaviour knowledge about PMS seems to be quite low among the students and thereby indicates the need to provide awareness and give emphasis on the management of premenstrual symptoms both pharmacologically (if required) and non-pharmacologically.

Keywords: Coping mechanisms, Female health, Menstrual cycle, Premenstrual syndrome, PMS, PMSS, Prevalence, Reproductive health

INTRODUCTION

Premenstrual syndrome (PMS) is a set of distressing physical and psychological symptoms occurring cyclically during the luteal phase of each menstrual cycle that begin a few days before menstruation and resolves within a few days of the onset of menstruation.[1] Hormonal variations are the main reason behind this which leads to difficulty in day-to-day functioning and poor quality of life.[2] PMS is essentially a neuroendocrine disorder with biological, social and psychological factors.[3] Through various studies It has been observed that more than 90% of the women around the globe experience symptoms like anxiety, irritability, headache, fatigue, breast tenderness, social

withdrawal, change in mood, sleep disruption and depression.[4,5]

The pathophysiology of PMS largely remains unknown, complex and multifactorial and yet to be fully clarified and may include the effect of progesterone on neurotransmitters such as serotonin, opioids, catecholamine and GABA, increased prolactin level or increased sensitivity to the effect of prolactin, insulin resistance, sensitivity to endogenous hormones, nutritional deficiencies, alteration in glucose metabolism, abnormal hypothalamic-pituitary-adrenal axis function and fluid and electrolyte imbalance.[1,6-9] The cause of PMS is largely unknown but various biosocial, lifestyle, dietary and psychological causes have been claimed as the cause of the syndrome, including smoking, alcohol, exercise, altered body fluid balance, red meat diet or even beverages containing caffeine.[10,11] PMS affects daily life or academic performance of college students, along-with psychomotor functions as a result of alterations in the cognitive-emotional processes.[12,13]

Premenstrual disorders cause significant distress or interferes with work, school and usual social activities which lowers the quality of life.[14] These disorders are treatable with-selective serotonin reuptake inhibitors (like sertraline and fluoxetine), anxiolytic agents, gonadotropin releasing hormone agonists, NSAIDs and even combination oral contraceptives have been shown to treat both the psychiatric as well as the physical symptoms. Among non-pharmacological treatment measures, evidence suggests that cognitive behaviour therapy, aerobic exercises, homeopathic treatment, massage therapy and dietary modifications may be beneficial.[15-23]

Based on various studies done in India, the reported prevalence estimates of PMS have ranged from 14.3% to 74.4%.[24,25] Factors influencing prevalence includes various diagnostic criteria/tools used, socio-demographic and cultural variations considering a diverse country like India. Owing to the more or less taboo nature of menstruation in a conservative society like India, coupled with gender-norms applied to females, awareness regarding premenstrual disorders and/or help-seeking behaviour has been sub-optimal. Appropriate health policy implementation can play a huge role in reducing the treatment gap in premenstrual disorders.[28]

PMS is related to many negative effects like high suicide and accident rates, school absentee rates, poor academic performance and even acute psychiatric illnesses. PMS is one of the factors that make women more susceptible than men to depression, particularly during periods of rapid fluctuation of gonadal hormones, like premenstrual and postpartum periods. Studies in different countries has also indicated that premenstrual symptoms are more common and very severe among educated women than non-educated women showing a possible association of stress with PMS.[6,29-33]

Therefore, the objectives of this research paper were to find the prevalence of premenstrual symptoms and also to assess the socio-demographic, dietary and lifestyle factors associated with premenstrual symptoms. Further, it will also help in analysing the common symptoms and their attributes of PMS which would help primary care doctors to diagnose PMS with greater accuracy.[34]

METHODS

Study design, setting and, sampling

An institutional based cross-sectional study was conducted from 01 November 2022 to 15 February 2023 at Amrita Institute of medical sciences (AIMS), located in Ernakulam district, Kerala, India. AIMS is part of the Health Sciences campus of Amrita Vishwa Vidyapeetham. All female students of AIMS in the academic year 2022-2023 were included in this study. Students who were critically ill, had irregular menstrual cycles or any psychiatric illnesses were excluded from the study. The minimum sample size required for this study was calculated by taking the prevalence of premenstrual syndrome as 14.3% among female regular students observed in an existing literature with 5% absolute precision and 95% confidence, the minimum sample size comes out to be 188.[21] A total of 117 medical students, 42 dental students and 43 allied health sciences students were part of the study.

Premenstrual syndrome

Participants that had scored 80 or above (i.e. above 40%) based on their responses to a premenstrual syndrome scale (PMSS) questionnaire which consists of symptoms occurring about seven days prior to the start of menstrual bleeding and ending before the bleeding starts were considered as 'Positive PMS'.[36]

Based on the percentage of scores, PMS was graded as - "no symptoms" (1-40), "mild" (41-80), "moderate" (81-120), "severe" (121-160) and "very severe" (161-200). The diagnosis of PMS was made if the scale's overall score was 81 or higher. The severity of PMS increases in direct proportion to the increase in scale total score.[36]

Any measures taken by participants in an attempt to alleviate/decrease the premenstrual symptoms regardless of its severity was considered coping mechanism and were reported.[37]

Data collection and procedure

A semi-structured self-reported questionnaire was used to collect the data from the participants. The questionnaire included socio-demographic details, menstrual related history, lifestyle and behavioural factors and coping mechanisms (obtained from various studies) besides the premenstrual symptoms. A pre validation of the questionnaire was done before conducting the study on 27

students in order to assess the validity and reliability. The cronbach's alpha value was found to be 0.901.

The premenstrual syndrome scale (PMSS) comprised of 40 questions with three sub-scales namely, physiological, psychological and behavioural symptoms which was used to assess the presence of PMS. The measurement of severity was based on the following scoring system as - never as "1", rarely as "2", some- times as "3", very often as "4" and always as "5" points and a score of 80 and above indicates the occurrence of PMS.[36] For coping mechanisms, students who experienced any premenstrual symptoms were asked, what attempts they follow to cope with these symptoms and these responses were subsequently grouped within categories.

The study was conducted after obtaining the approval from the institutional ethics committee (IEC) of AIMS, Kochi. The questionnaire was distributed to all female students who came within the inclusion criterion through various social media platforms either during class hours or at the student dormitories. Participation was voluntary and no student was forced to take part in the study. Informed consent was obtained after providing information about PMS via online forms before filling the questionnaire. Complete confidentiality of the participants was maintained.

Data quality control

The quality of the data was ensured by pre-testing the questionnaire with 27 student data before the actual data collection. Cronbach's alpha value which was 0.901 was used to check for the reliability of the questionnaire and expert evaluation by the biostatistician was assured.

Data processing and analysis

Statistical analysis was performed using IBM SPSS version 20.0 software. Categorical variables were expressed as frequency and percentage. To test the statistical significance of the association of categorical factors with outcome, Chi square test was used. Odds ratio with 95% confidence interval was computed to assess the presence and degree of association. Variables with P value <0.05 were included in multi-variable analysis (multiple binary logistic regression analysis). A p value <0.05 was considered as statistically significant.

RESULTS

Socio-demographic characteristics

A total of 335 study participants had completed the questionnaire, out of which 2 of them did not consent to take part in the study. 202 participants came under the inclusion criterion i.e. students who were past their menarche and had regular menstrual cycle in the recent years. The mean age was 19.80 (SD=1.27) ranging from 17-23.

Lifestyle and behavioural factors

For 202 study participants, around 19 of them were occasionally consuming alcohol and hardly 2 of them were smokers. Only 15 of them had had a habit of exercising regularly and 107 of them exercised occasionally. Majority of them i.e. 56.9% of them belonged to the weight category between 51-70. 9.9% had a weight above 70. There was no significant association found between lifestyle and behavioural factors and premenstrual syndrome (Table 1).

Table 1: Lifestyle and behavioural characteristics of study participants, Amrita Institute of Medical Sciences, Kochi, 2023.

Lifestyle and behavioural factors	Category	Premenstrual syndrome		P value
		Yes, N (%)	No, N (%)	
Regular exercise	No	52 (65)	28 (35)	0.762
	Occasionally	74 (69.2)	33 (30.8)	
	Regularly	11 (73.3)	4 (26.7)	
Daily sugar consumption	<6 teaspoons	96 (66.7)	48 (33.3)	0.931
	6-12 teaspoons	36 (70.6)	15 (29.4)	
	>12	5 (71.4)	2 (28.6)	
Coffee intake/day	No	90 (65.7)	47 (34.3)	0.619
	1 cup	32 (72.7)	12 (27.3)	
	>/= 2 cup	15 (71.4)	6 (28.6)	
Tea intake/day	No	77 (67.5)	37 (32.5)	0.799
	1 cup	37 (71.2)	15 (28.8)	
	>/= 2 cup	23 (63.8)	13 (36.2)	
Milk consumption	No	54 (74)	19 (26)	0.339
	Sometimes	72 (64.9)	39 (35.1)	
	Regularly	11 (61.1)	7 (38.9)	
Alcohol intake	Never	122 (66.7)	61 (33.3)	0.315
	Sometimes	15 (78.9)	4 (21.2)	

Continued.

Lifestyle and behavioural factors	Category	Premenstrual syndrome Yes, N (%)	No, N (%)	P value
Smoking cigarettes	Never	136 (68)	64 (32)	0.543
	Current smoker	1 (50)	1 (50)	
History of sexual intercourse	Yes	7 (100)	0 (0)	0.099
	No	130 (66.7)	65 (33.3)	

*p-value <0.05 was considered statistically significant

Table 2: Reproductive and menstrual related characteristics of study participants, Amrita Institute of Medical Sciences, Kochi, 2023.

Reproductive and menstrual related factors	Category	Premenstrual syndrome Yes, N (%) n=137	No, N (%) n=65	P value
Regular menstrual cycles in the recent years	Yes	133 (67.5)	64 (32.5)	1.00
	No	4 (80)	1 (20)	
Menstrual bleeding duration	1-4 days	32 (74.4)	11 (25.6)	0.43
	4-6 days	89 (64.9)	48 (35.1)	
	>=7 days	16 (72.7)	6 (27.3)	
Quantity of menstrual bleed (Number of pads/day)	<3	28 (59.6)	19 (40.4)	0.026
	3	51 (62.2)	31 (37.8)	
	>3	58 (79.4)	15 (20.6)	
Average menstrual interval	<21 days	10 (90.9)	1 (9.1)	0.191
	21-35 days	123 (66.1)	63 (33.9)	
	>35 days	4 (80)	1 (20)	
Perceived amount of menstrual bleeding	Mild	12 (66.6)	6 (33.4)	0.569
	Moderate	113 (66.8)	56 (33.2)	
	Severe	12 (80)	3 (20)	
Menstrual cramps and intensity	No	15 (44.1)	19 (55.9)	0.003
	Mild-moderate	94 (70.6)	39 (29.4)	
	Severe	28 (80)	7 (20)	
Familial history of PMS	Yes	49 (79.1)	13 (20.9)	0.017
	No	88 (62.9)	52 (37.1)	
Duration of symptoms in the premenstrual period	>7 days	21 (67.7)	10 (32.3)	0.045
	7-2 days	58 (77.3)	17 (22.7)	
	<2 days	58 (60.4)	38 (39.6)	
Medical management of symptoms of PMS	Yes	16 (76.1)	5 (23.9)	0.377
	No	121 (66.8)	60 (33.2)	
Suffering from any health problem that effects your mental health	Yes	8 (88.8)	1 (11.2)	0.276
	No	129 (66.8)	64 (33.2)	
Practicing any mediation techniques like IAM	Yes	12 (80)	3 (20)	0.395
	No	125 (66.8)	62 (33.2)	

*p-value <0.05 was considered statistically significant

Menstrual related characteristics

Around 130 out of 202 study participants have experienced symptoms of PMS. The mean age of study participants at menarche were 12.62 (SD=1.603). Around 108 (52.94%) had their menarche at greater than or equal to 13 years. Among the study participants, 35 (17.33%) of them had severe intensity menstrual cramps. Menstrual related factors like familial history of PMS, perceived menstrual pain intensity, quantity of menstrual bleed, duration of symptoms in the premenstrual period were found to be significantly associated with PMS (Table 2).

In multi-variate analysis, perceived menstrual pain intensity, quantity of menstrual bleed were factors significantly associated with premenstrual syndrome at p value < 0.05 with 95% confidence interval (Table 3).

The odds of having premenstrual syndrome for those with mild-moderate and severe perceived menstrual pain intensity were 2.59 [95% CI: (1.10, 6.09)] and 3.57 [(95% CI: (1.12, 11.42)] respectively. This study also indicates that those who used 3 pads and >3 pads during menstruation were 1.19 (95% CI: (0.532, 2.71)] and 2.533 (95% CI: (1.03, 6.23)] times more to develop PMS respectively (Table 4).

Table 3: Multivariable binary logistic regression analysis, Amrita Institute of Medical Sciences, Kochi, 2023.

Explanatory variable	Category	Premenstrual syndrome		AOR (95% CI)	P value
		Yes	No		
Number of pads used/day during menstrual phase	<3	28	19	1.00	0.083
	3	51	31	1.19 (0.53,2.71)	0.661
	>3	58	15	2.53 (1.03,6.23)	0.043
Menstrual cramps and intensity	No	15	19	1.00	0.051
	Mild-moderate	94	39	2.59 (1.10,6.10)	0.029
	Severe	28	7	3.57 (1.12,11.42)	0.032

Table 4: Categorisation of PMS based on PMSS, Amrita Institute of Medical Sciences, Kochi, 2023.

PMS severity score	Frequency (n=202)	Percentage (%)
No symptoms	3	1.5
Mild symptoms	62	30.7
Moderate symptoms	87	43.1
Severe symptoms	35	17.3
Very severe symptoms	15	7.4

Magnitude of premenstrual symptoms

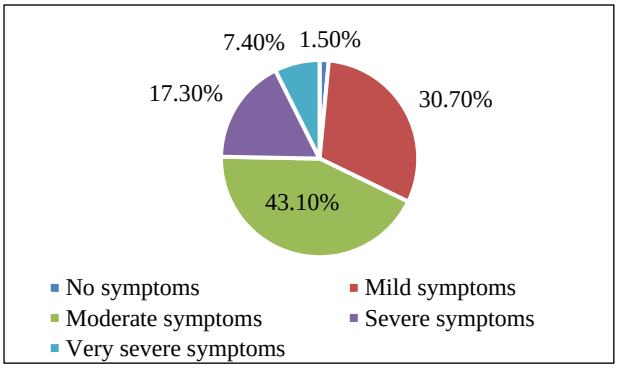

Figure 1: Magnitude of premenstrual symptoms among study participants, Amrita Institute of Medical Sciences, Kochi, 2023.

From 202 study participants, 137 (67.8%) of them had premenstrual symptoms, of which 49 (79%) of them had a familial history of PMS (Figure 1).

Premenstrual symptoms

Various types of premenstrual symptoms enquired were also investigated. Among 202 study participants, most reported and frequent physiological symptoms were abdominal cramps (86.6%), generalised aches and pains (85.6%), food cravings (79.7%) and fatigue (79.7%). Frequent behavioural symptoms were being oversensitive (78.7%), lack of interest in usual activities (68.8%) and impaired work performance (64.4%). And some frequent psychological symptoms were mood swings (89.1%), irritability (81.2%) and loss of concentration (78.7%). The data showed that the severity and number of premenstrual symptoms experienced by the students varied from one individual to the other.

The degree of severity of the premenstrual symptoms in students were investigated using PMSS which measured the number symptom (indicator) occurred and rating severity of symptoms. All the indicators were then added together to form the index. The index scores ranged between 40 indicating that there were no symptoms to 200 indicating that the symptoms were at maximum severity. Majority of the students had mild (30.7%) to moderate (43.1%) level of symptoms and 1.5% had none/minimal levels of severity of the symptoms (Table 5).

Table 5: Premenstrual symptoms among students of Amrita Institute of Medical Sciences, Kochi, 2023.

PMS symptom	Category	Percentage	Premenstrual syndrome	
			Yes (n=137)	No (n=65)
Physiological symptoms				
Breast tenderness and swelling	Yes	50.5	88	14
	No	49.5	49	51
Abdominal bloating	Yes	73.8	121	28
	No	26.2	16	37
weight gain	Yes	47	78	17
	No	53	59	48
Headache	Yes	67.3	108	28
	No	32.7	29	37
Dizziness/fainting.	Yes	46	73	20
	No	54	64	45

Continued.

PMS symptom	Category	Percentage	Premenstrual syndrome	
			Yes (n=137)	No (n=65)
Fatigue	Yes	79.7	120	41
	No	20.3	17	24
Palpitations	Yes	32.7	59	7
	No	67.3	78	58
Pelvic discomfort and pain	Yes	79.7	123	38
	No	20.3	14	27
Abdominal cramps	Yes	86.6	125	50
	No	13.4	12	15
Change in bowel habits	Yes	71.8	119	26
	No	28.2	18	39
Increased appetite	Yes	78.7	124	35
	No	21.3	13	30
Generalised aches and pains	Yes	85.6	130	43
	No	14.4	7	22
Food cravings (sugar/salt)	Yes	79.7	124	37
	No	20.3	13	28
Skin changes, rashes, pimples	Yes	76.2	115	39
	No	23.8	22	26
Nausea/vomiting	Yes	35.1	61	10
	No	64.9	76	55
Muscle and Joint pain	Yes	69.3	112	28
	No	30.7	25	37
Psychological symptoms				
Irritability	Yes	81.2	128	32
	No	19.8	7	33
Anxiety	Yes	69.8	121	20
	No	30.2	16	45
Tension	Yes	74.3	122	28
	No	25.7	15	37
Mood swings	Yes	89.1	136	44
	No	10.9	1	21
Loss of concentration	Yes	78.7	131	28
	No	21.3	6	37
Depression	Yes	58.4	107	11
	No	41.6	30	54
Forgetfulness	Yes	54	94	15
	No	46	43	50
Easy crying/ crying spells	Yes	76.7	126	29
	No	23.3	11	36
Sleep disturbances (insomnia/ hypersomnia)	Yes	51	90	13
	No	49	47	52
Confusion	Yes	50.5	96	6
	No	49.5	41	59
Aggression	Yes	63.9	113	16
	No	36.1	24	49
Hopelessness	Yes	54	101	7
	No	46	36	57
Behavioural symptoms				
Social withdrawal	Yes	59.4	103	17
	No	40.6	34	48
Restlessness	Yes	60.9	112	11
	No	39.1	25	54
Lack of self-control	Yes	55	102	9

Continued.

PMS symptom	Category	Percentage	Premenstrual syndrome	
			Yes (n=137)	No (n=65)
	No	45	35	56
Feeling guilty	Yes	55.4	103	9
	No	44.6	34	56
Clumsiness	Yes	51	98	5
	No	49	39	60
Lack of interest in usual activities	Yes	78.8	116	23
	No	31.2	21	42
Poor judgment	Yes	48	88	9
	No	52	49	56
Impaired work performance	Yes	64.4	111	19
	No	35.6	26	46
Obsessional thoughts	Yes	51.5	93	11
	No	48.5	44	54
Compulsive behaviour	Yes	47	88	7
	No	53	49	58
Irrational thoughts	Yes	55.4	104	8
	No	44.6	33	57
Being over sensitive	Yes	78.7	129	30
	No	21.3	8	35

Table 6: Coping mechanisms applied by students to relieve premenstrual symptoms, Amrita institute of Medical Sciences, Kochi, 2023.

Coping mechanism	Frequency (n=202)	Percentage
Taking rest	181	89.6
Sleeping	164	81.2
Listening to music	124	61.4
Taking hot shower	106	52.5
Applying hot packs	94	46.5
Analgesics	66	32.7
Crying	64	31.7
Warm compression at abdomen	57	28.2
Diet alteration	43	21.3
Caffeine intake	33	16.3
Body massage	30	14.9
Working out	23	11.4
Use of herbal medicines	11	5.4
Seeking medical help	7	3.5
Others	4	2
Alcohol consumption	1	0.5
Smoking cigarette	1	0.5

Coping mechanisms for premenstrual symptoms

From the total study participants, 201 (99.5%) of them apply at-least one coping mechanism for premenstrual symptoms regardless of its severity. From coping mechanisms, taking rest accounts for 181 (89.6%) of the study participants followed by sleeping 164 (81.2%) and listening to music 124 (61.4%) (Table 6).

Factors associated with premenstrual syndrome

In bivariate analysis factors such as familial history of PMS, perceived menstrual pain intensity, number of pads used during menstruation and duration of symptoms in the premenstrual period were significantly associated with PMS. In multi-variate analysis, perceived menstrual pain intensity, number of pads used during menstruation were factors significantly associated with premenstrual syndrome at P value < 0.05 with 95% confidence interval.

The odds of having premenstrual syndrome for those with moderate and severe perceived menstrual pain intensity were 2.59 [95% CI: (1.10, 6.09) and 3.57 (95% CI: (1.12, 11.42)] respectively. This study also indicates that those who used <=3 pads and >3 pads during menstruation were

1.19 (95% CI: (0.532, 2.71)] and 2.533 (95% CI: (1.03, 6.23)] times more to develop PMS respectively.

DISCUSSION

This study identified prevalence of premenstrual syndrome and determined its magnitude, severity, coping mechanisms and risk factors of the syndrome among female students Amrita Institute of Medical Sciences, Kochi. In this study the magnitude of premenstrual syndrome was 68.3% which is consistent with that of the study conducted by Bhuvaneshwari among selected college students in Puducherry i.e. 62.7%, Bilir et al in Turkey (71.3%).[2,37] Whereas this is inconsistent with that of the study conducted by Eshetu et al in Wolkite university, Ethiopia (37.9%), Durairaj et al in Velammal Medical College, Madurai (14.3%) and Raval et al in Bhavnagar, Gujarat (18.4%).[35,2,26] This implies premenstrual syndrome is a common problem of female University students, indicating a need to give emphasis for it by health care professionals. The high prevalence rates of PMS in this study could be associated with the increased stress levels among health sciences students, reduced sleep and inadequate diet. Similarly in this study, the odds of having premenstrual syndrome for those with mild-moderate and severe perceived menstrual pain intensity were 2.59 and 3.57 respectively. 'This might be due to physiologic effect of pain i.e, severe pain may cause loss of appetite, anxiety, loss of concentration, work impairment and feeling of guilty for being female that predispose them to develop behavioural and psychological symptoms leading to premenstrual syndrome.[30] This implies the need for seeking health care and applying of any non-pharmacological pain management strategies for students with severe menstrual pain to reduce occurrences of associated symptoms, altogether leading to premenstrual syndrome.[23] Also in this study, the students who used more than 3 pads in a day during the menstrual phase were 2.53 times more likely to develop PMS compared to students who used </= 3 pads. This indirectly shows that students who had a heavy bleeding reported to have PMS symptoms more than the students who had moderate to minimal bleeding. Heavy menstrual blood flow not only causes psychological disturbances but also pose a risk for acute complications and chronic diseases which needs great attention by students, parents and health care providers.[35] In this study, most reported and frequent physiological symptoms were abdominal cramps 175 (86.6%), generalised aches and pains 173 (85.6%), food cravings 161 (79.7%) and fatigue 161 (79.7%). Most reported behavioural symptoms were being oversensitive 159 (78.7%), lack of interest in usual activities 139 (68.8%) and impaired work performance 130 (64.4%). And some frequent psychological symptoms were mood swings 180 (89.1%), irritability 160 (81.2%) and loss of concentration 159 (78.7%).

Eshetu et al conducted a study in Wolkite university Ethiopia, where the same PMSS scale as in in our study was used and obtained the data on university students as follows; physiological symptoms were abdominal cramps 466 (78.8%), fatigue 431 (72.9%), psychological symptoms like depression 433 (73.3%) and mood swings 415 (70.2%), and behavioral symptoms were impaired work performance 325 (55%), lack of interest in usual activities 315 (53.3%) and obsessional thoughts 303 (51.3%).[35] Tolossa et al conducted a study in Mekelle university, most commonly reported physiological symptom was abdominal bloating 141 (81.5%), and the most commonly reported psychological symptom experienced by the participants was loss of interest in doing things 134 (77.5%).[1] In a study conducted among nursing students in Thrissur by Joseph et al, most common symptoms reported were back ache 44 (73%), tiredness 39 (65%) and irritability 36 (60%).[38] The most reported coping mechanisms applied by the students to relieve the premenstrual symptoms were taking rest 181 (89.6%), sleeping 164 (81.2%), listening to music (61.4%), taking a hot shower 106 (52.5%) and applying hot packs 94 (46.5%). Eshetu et al in a study conducted in Wolkite university Ethiopia reported taking rest for 373 (67.6%), sleeping 335 (60.7%), applying hot packs 163 (29.5%) and taking pain killers 155 (28.1%).[35]

Akin et al in a study conducted among university studentts in a university in Turkey reported positive affect-inducing activities in coping with PMS includes personal orientations like spending time with things they enjoy, distracting themselves, inducing positive feelings, making time for hobbies, exercising, applying a hot water bottle, and meeting friends.[39] Erbas et al reported that students use heat treatments and medications to cope with PMS.[40]

Most students who have symptoms of PMS do not seek for medical care and as a result don't rely on medical management. Only those who have severe symptoms consume medications like painkillers (including NSAIDs) as part of symptomatic management. But if a student reports to the doctor with severe symptoms of PMS during majority of the menstrual cycles, he/she prescribes medications like hormonal contraceptives (combined oral contraceptive pills), evening primrose oil, antidepressants for psychological symptoms, painkillers, etc.

CONCLUSION

The prevalence of PMS is on the higher side i.e. 68.3% compared to many studies around the world. The health seeking behaviour knowledge about PMS seems to be quite low among the students and thereby indicates the need to provide awareness and give emphasis on the management of premenstrual symptoms both pharmacologically (if required) and non-pharmacologically.

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