International Journal of Scientific Reports
Poudel E et al. Int J Sci Rep. 2023 May;9(5):137-144
http://www.sci-rep.com
pISSN 2454-2156 | eISSN 2454-2164
DOI: https://dx.doi.org/10.18203/issn.2454-2156.IntJSciRep20231096

Original Research Article

Knowledge, attitude, experience and management on premenstrual syndrome among secondary level adolescence girl students of Kirtipur Municipality, Kathmandu, Nepal

Elina Poudel[1], Amrit Bist[2]*, Amita K. C.[3]

[1]Hope International College, Lalitpur, Nepal
[2]Nepali Technical Assistance Group, Kathmandu, Nepal
[3]Department of Public Health, Hope International College, Lalitpur, Nepal

Received: 25 February 2023
Accepted: 15 March 2023

***Correspondence:**
Amrit Bist,
E-mail: amritbist122@gmail.com

ABSTRACT

Background: Premenstrual syndrome (PMS) is a common menstrual disorder that affects the quality of life of women. The objective of this study is to identify the knowledge, attitude, experience and management on pre-menstrual syndrome among higher secondary level adolescence girls' students of Kirtipur Municipality of Kathmandu district.
Methods: A descriptive cross-sectional study was conducted among 322 adolescence girl students of higher secondary school of Kritipur Municipality using pre-tested self-administered questionnaire.
Results: The mean age of the respondents was 17 years. It was found that 90.2% of the respondent had very poor knowledge on premenstrual syndrome and 9.2% of the respondent had fair /below average knowledge regarding PMS. The level of knowledge among the study participants was found statistically significant with education status of mother (p=0.002) and that of father (p=0.013). The prevalence of PMS among the female students of higher secondary level was found to be high (77%). Considerably high proportion of the participants reported having at least one somatic and one affective symptoms of premenstrual syndrome. The most frequent affective symptoms experienced by the respondents were mood swings, headache, irritability and somatic symptom was acnes in this study.
Conclusions: Majority of the respondents had poor knowledge and extremely negative attitude towards PMS. High proportion of the participants reported having at least one somatic and one affective symptom of PMS. Comprehensive education on menstrual health and PMS can be suggested for the adolescence girl in school level.

Keywords: Adolescence girl, Attitude, Experience, Knowledge, Premenstrual syndrome

INTRODUCTION

Adolescence in girls has been recognized as a special period between the ages of 10 to 19 years which signifies the transition from girlhood to womanhood. During puberty, hormonal, psychological, cognitive and physical changes occur simultaneously and interactively making physiological development a challenge adolescents have to face, with emotional, social and behavioural dimensions.[1] Menstruation is an important process of female reproductive cycle, but menstrual dysfunction in adolescent girls may affect the normal life of adolescence girls. Most of the adolescents' girls were affected by premenstrual syndrome symptoms like dysmenorrheal, menorrhagia, metrorrhagia.[2] It is a menstrual disorder which is very common among teenagers and young women. This focuses more on somatic symptoms such as fatigue, abdominal bloating, breast tenderness, headache, and swelling in the extremities as well as affective symptoms include irritability, angry outbursts, irritability, depression, confusion, anxiety and social withdrawal.[3]

Premenstrual dysphoric disorder is a severe form of premenstrual syndrome with specific focus on affective symptomatology. There are a few associated risk factors like exercise habits, smoking, use of alcohol, altered trans-capillary fluid balance, a diet rich in beef or caffeine containing beverages and stress. It is common for women in reproductive age group to feel discomfort a few days prior to the onset of menstruation.[4] Adolescents with low self-esteem were found to expect failure, be generally nervous, show less effort towards being successful, ignore important things in life and feel worthless and untalented when they failed. It is known that some stimuli triggered by daily events also trigger premenstrual syndrome in women with sensitive personalities.[5] In fact at least 75 percent of women with regular menstrual cycles report unpleasant physical or psychological symptoms. For the majority of women, these symptoms are mild and tolerable Premenstrual syndrome refers to symptoms such as acne, fatigue, bloating, anger, and moodiness. premenstrual syndrome affects between 14 percent and 89 percent of adolescents.[6] Abdominal bloating and breast tenderness found as customary signs and 70 percent pubescent girls face these troubles before and during menstruation.[7]

Females with premenstrual dysphoric disorder complaint of breast tenderness, severe lower abdomen pain, bloating, joint and muscle pain, weight gain, sleep disturbances, irritability, anger, tension, low concentration, mood instability, and marked depression. The presence of these symptoms adversely affects their academic, social, and personal performance.[8] In addition, American psychiatric association has also established criteria for diagnosis of premenstrual dysphoric disorder according to which a woman is diagnosed to have premenstrual dysphoric disorder when her life is significantly affected by moderate to severe symptoms of premenstrual syndrome.[9] PMS symptoms have negative impact on academic and social performances of the students. The investigator felt that giving knowledge about PMS will help in coping with the negative impacts of PMS among the adolescent girls. Students are the promising group to country's development. Therefore, the investigator felt a strong need to take up this study to assess the knowledge on PMS among adolescent girls.[10]

METHODS

A descriptive cross-sectional study was conducted among 322 adolescence girl students of higher secondary school of Kritipur Municipality. Data were collected from March 2022 to April 2022. The sample size was 322 adolescent girls. It was calculated using the formula z^2pq/d^2 where the prevalence of 39 %, 95% confidence interval, and 5% margin of error were taken. Structured questionnaire was used to identify the knowledge, experience and management regarding premenstrual syndrome and Likert scale to access attitude on premenstrual syndrome. Self-Administered Questionnaire was used as a technique of data collection. Sampling technique was simple random sampling. Ethical approval was received from IRC and approval for data collection from respective municipality.

The data were entered and analyzed using IBM SPSS Statistics version 25.0. Based on the distribution and variance, appropriate statistical tests were used for analysis. Descriptive analysis was used to describe background characteristics. Chi-square test was used to test the difference between the categorical variables, and $p<0.05$ was considered as statistically significant

RESULTS

Most of the respondents belong to the age group 17-19 with the mean age of 17 years. Majority of the respondent (51.9%) were in grade X1 and minority (48.1%) were in grade XII. Most of the (99.7%) of respondent were unmarried. Out of the total respondent, 80.7% were Hindu followed by Buddhists (13.4%) and Christian (5%). Majority of the respondents were Brahmin/Chhetri (54.66%) followed by Janajati (41.93%) More than two-third of the respondents had nuclear family (Table 1).

Majority of the respondents (63.7%) heard about the premenstrual syndrome. 64.9% of respondents heard about premenstrual syndrome from friends followed by from social media (48.8%), family /relatives (37.1%), health professionals (19%) and books (16.6%). Likewise, majority of the respondents (95.1%) knew the meaning of Premenstrual syndrome (Table 2).

Majority of respondents (94.1%) reported that mood swings was the sign and symptoms of premenstrual syndrome followed by irritability (79.5%), acnes (72.7%), headache (72.2%), food cravings (67.3%), change in sleep pattern (59%), aggression (57.6%), abdominal bloating (52.2%), joint pain (51.2%), breast tenderness (44.4%) and others (1.5%). Similarly, majority (89.4%) responded stress as a risk factor of PMS followed by dietary factor (49.5%) family history, (47%), overweight (46.5%), caffeine intake (25.8%), alcohol abuse (19.7%) and others (1%). Nearly two-third (64.3%) respondents reported sleep as a relieving factor for PMS followed by physical exercise (63.8), yoga/meditation (59.3%), home remedies (58.8%) and consult doctor (58.8%) and (53.3%) dietary factor (Table 3).

Majority of respondents (90.2%) had very poor level of knowledge and minority (9.8%) had fair/ below average level of knowledge (Table 4).

Majority (40.1%) agreed that PMS disturbs normal routine whereas 43.2% agreed that stress worsen PMS. Majority (34.2%) agreed that traditional medicine suitable to be used to treat PMS. Furthermore, 36.3% agreed that dietary changes help to relieve. Similarly, 35.7% agreed that medication relieve PMS disagreed and (6.2%) strongly disagreed. The entire respondent had extremely negative attitude towards PMS (Table 5-7).

Majority of the respondents (77%) experienced PMS. More than two-third of respondents (75.6%) shared about their PMS. Among them, the 71.4% preferred to share with mother followed by with the friends (58.2%) (Table 8).

Majority (81.9%) experienced mood swings followed by irritability (63.3%), headache (53.2%), acnes (48.8%), food cravings (46.8%). Similarly, majority (54%) experienced with moderate symptoms of the PMS followed by the mild symptoms (26.2%) of the PMS (Table 9).

Majority of respondents (73.1%) who experienced PMS had drink lots of water for management followed by used hot bags (70.7%), 27.3% seek medical care. Among those who had sought medical care, 50% visited to the pharmacy followed by visited hospital (42.4%) (Table 10).

Association between the social-demographic characteristics like education status of respondent's mother, education status of respondent's father with level of the knowledge regarding premenstrual syndrome (Table 11).

Table 1: Socio-demographic information of the respondents, (n=322).

Characteristics	N	Percent (%)
Age of the respondent (Years)		
14-16	3	0.9
17-19	319	99.1
Mean age ± SD=17 ±0.789		
Current education level of respondent		
Grade XI	167	51.9
Grade XII	155	48.1
Marital status of respondent		
Married	1	0.3
Unmarried	321	99.7
Religion of respondent		
Hindu	260	80.7
Buddhism	43	13.4
Islam	3	0.9
Christianity	16	5.0
Ethnicity of respondents		
Brahmin/Chhetri	176	54.66
Janajati	135	41.93
Dalit	11	3.41
Type of family		
Nuclear	218	67.7
Joint	104	32.3

Table 2: Knowledge related to premenstrual syndrome, (n=322).

Characteristics	N	Percent (%)
Heard about premenstrual syndrome		
Yes	205	63.7
No	31	9.6
Don't know	86	26.7
Source of information about PMS**		
Family/relatives	76	37.1
Friends	133	64.9
Health professional	39	19.0
Social media	100	48.8
Books	34	16.6
Others	1	0.5
Meaning of PMS		
Physical or emotional symptoms before the onset of the menstruation	195	95.1
Regular discharge of blood	10	4.9

**Multiple responses

Table 3: Knowledge related to sign and symptoms of premenstrual syndrome, (n=205).

Characteristics	N	Percent (%)
Knowledge on sign and symptoms of PMS**		
Headache	148	72.2
Mood swings	193	94.1
Irritability	163	79.5
Aggression	118	57.6
Abdominal bloating	107	52.2
Breast tenderness	91	44.4
Acnes	149	72.7
Joint pain	105	51.2
Change in sleep pattern	121	59.0
Food craving	138	67.3
Others	3	1.5
Knowledge on risk factor that affects PMS**		
High caffeine intake	51	25.8
Alcohol abuse	39	19.7
Stress	177	89.4
Overweight	92	46.5
Family history	93	47.0
Dietary factors	98	49.5
Others	2	1.0
Knowledge on relieving the symptoms of PMS**		
Dietary changes	106	53.3
Yoga/meditation	118	59.3
Physical exercise	127	63.8
Home remedies	117	58.8
Consult doctor	117	58.8
Sleep	128	64.3
Others	4	2.0

Table 4: Adolescence girl students level of knowledge on PMS.

Level of knowledge	N	Percent (%)
Very poor	185	90.2
Fair/ below average	20	9.8

Table 5: Attitude towards premenstrual syndrome, (n=322).

Characteristics	N	Percent (%)
PMS disturbs normal routine		
Strongly agree	121	37.6
Agree	129	40.1
Neutral	55	17.1
Disagree	15	4.7
Strongly disagree	2	0.6
Missed school or work due to PMS		
Strongly agree	65	20.2
Agree	120	37.3
Neutral	63	19.6
Disagree	40	12.4
Strongly disagree	34	10.6
Stress worsen PMS		
Strongly agree	69	21.4
Agree	139	43.2
Neutral	80	24.8
Disagree	26	8.1
Strongly disagree	8	2.5

Table 6: Attitude related to medicine for premenstrual syndrome, (n=322).

Variables	N	Percent (%)
Traditional medicine is suitable to be used to treat PMS		
Strongly agree	31	9.6
Agree	99	30.7
Neutral	110	34.2
Disagree	59	18.3
Strongly disagree	23	7.1
Dietary changes can made to help relieve PMS symptoms		
Strongly agree	52	16.1
Agree	117	36.3
Neutral	117	36.3
Disagree	26	8.1
Strongly disagree	9	2.8
Medication relieve PMS		
Strongly agree	68	21.1
Agree	115	35.7
Neutral	87	27.0
Disagree	32	9.9
Strongly disagree	20	6.2

Table 7: Attitude related to quality of life regarding premenstrual syndrome, (n=322).

Characteristics	N	Percent (%)
Normal part of women life		
Strongly agree	121	37.6
Agree	112	34.8
Neutral	55	17.1
Disagree	24	7.5
Strongly disagree	10	3.1
PMS affects the quality of life		
Strongly agree	48	14.9
Agree	126	39.1
Neutral	103	32.0
Disagree	33	10.2
Strongly disagree	12	3.7
one of the most negative aspects is a loss of emotional control		
Strongly agree	78	24.2
Agree	146	45.3
Neutral	76	23.6
Disagree	15	4.7
Strongly disagree	7	2.2

Table 8: Experience related to premenstrual syndrome of the respondents, (n=322).

Characteristics	N	Percent (%)
Experience of PMS		
Yes	248	77.0
No	74	23.0
Share about PMS, (n=248)		
Yes	189	75.6
No	61	24.4
Prefer to talk about PMS, (n=189)**		
Mother	135	71.4
Sister	97	51.3
Friends	110	58.2
Others	3	1.6

Continued.

Characteristics	N	Percent (%)
History of PMS in family, (n=248)		
Yes	74	30.0
No	83	33.6
Don't know	90	36.4

** Multiple responses

Table 9: Sign and symptoms experienced by the respondents, (n=248).

Characteristics	N	Percent (%)
Sign and symptoms experienced **		
Headache	132	53.2
mood swings	203	81.9
Irritability	157	63.3
Aggression	102	41.1
abdominal bloating	84	33.9
Anxiety	42	16.9
breast tenderness	82	33.1
Acnes	121	48.8
joint pain	83	33.5
change in sleep pattern	106	42.7
food cravings	116	46.8
Others	3	1.2
Severity of symptoms		
Mild	65	26.2
Moderate	134	54.0
Severe	49	19.8

**Multiple responses

Table 10: Management related to premenstrual syndrome of the respondent, (n=248).

Characteristics	N	Percent (%)
Management related to PMS **		
cut down on caffeine and alcohol	37	15.3
avoid salt	8	3.3
green leafy vegetables	79	32.6
low fat dairy	42	17.4
drinks lots of water	177	73.1
use hot water bag	171	70.7
Self-medication	50	20.7
physical exercise	77	31.8
yoga/meditation	60	24.8
Sleep	129	53.3
seek medical care	66	27.3
Seeking the medical care from, (n=66)		
Hospital	28	42.4
Pharmacy	33	50.0
health post	5	7.6
Clinic	21	31.8

** Multiple responses

Table 11: Association between socio demographic characteristics and level of knowledge regarding premenstrual syndrome.

Characteristics	Level of knowledge, N (%)		P value
	Very poor	Fair/below average	
Age of the respondent			
Early adolescence	45 (88.2)	6 (11.8)	0. 577
Late adolescence	140 (90.9)	14 (9.1)	

Continued.

Characteristics	Level of knowledge, N (%)		P value
	Very poor	Fair/below average	
Education status of mother			
Illiterate	104 (96.3)	4 (3.7)	0.002*
Literate	81 (83.5)	16 (16.5)	
Education status of father			
Illiterate	91 (95.85)	4 (4.2)	0.013*
Literate	94 (85.5)	16 (14.5)	

*Statistically significant p<0.05

DISCUSSION

This study found that 90.2% of the respondent had very poor knowledge on premenstrual syndrome and 9.2% of the respondent had fair /below average knowledge regarding premenstrual syndrome. All of the respondents had negative attitude towards premenstrual syndrome. In contrast to this study, a study conducted by Givshad et al in Iran found that only 3.6% of the respondent had good knowledge, (61.8%) had average knowledge and 34.5% of them had poor knowledge. The 9.1% respondents had negative attitude, 63.6% of them had ambivalent attitude and 27.3% had positive attitude towards premenstrual syndrome.[11]

In this study, the most frequent affective symptoms were mood swings (81.9%) and irritability (63.3%) and somatic symptom in this study was acnes (48.8%). Although headache (53.2%), aggression (41.1%), change in sleep pattern (42.7%), food cravings (46.8%) like symptoms were also present in significant number of female students. Similar study conducted in Thailand showed that most common physical psychological symptoms were breast tenderness (74.4%) and angry bursts (97.7%).[12] Other study conducted was performed in West Bengal, India among adolescent girls of rural school reported that out of the affective symptoms irritability was highest (84.8%) followed by anger (70.5%) and anxiety (62.7%) and the most common somatic symptoms reported was breast tenderness.[13] In the study done in some of the undergraduate medical students in Nepal was reported that the most common PMS symptoms seen were abdominal discomfort and fatigue with (94.84%) and (76.28%) and the emotional symptoms were mood swings (35.05%), anxiety (27.31%) and (31.95%) irritability.

In this study, it was observed that PMS influenced academic and social activities. With regard to the academic impacts of PMS, (73.9%) of the respondent had difficulty in study followed by lack of concentration (56.4%), (34.1%) absenteeism, (15.6%) low scores. This result agrees with study done in Jimma Southwest Ethiopia on the prevalence of PMS and its association with Academic and social performance of the college students , which reported that PMS influenced academic and social activities .With regard to the academic performance of PMS, (77.9%) of the respondents failed to concentrate on their classroom , (64.5%) failed to carry out their homework and (61.1%) were absent from class.[14] Another study done in Saudi Arabia reported that performance impairment like poor concentration in class (48.3%), daily home chores (41.6%) and homework tasks (36%). It is predictable that these students suffering from PMS after graduating and getting a job, would be periodically absent at work and have reduced productivity.[15]

CONCLUSION

The study was conducted with the purpose to assess knowledge, attitude, experience and management on premenstrual syndrome among secondary level adolescent girl students of Kritipur municipality. PMS is a prevalent yet undertreated, disorder among girl students of secondary school which adversely affected their academic and social performance. This study found that majority of the respondents had very poor knowledge on premenstrual syndrome and all of the respondents had negative attitude towards premenstrual syndrome. The prevalence of PMS among the female students of higher secondary level was found to be high.

ACKNOWLEDGEMENTS

Author would like to thanks to all the participants of the study, Kritipur municipality, department of public health, Hope international college, and all peoples who directly and indirectly helped during the study.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Sapkota D, Sharma D, Pokharel H, Budhathoki SS, Khanal VKJJoKmc. Knowledge and practices regarding menstruation among school going adolescents of rural Nepal. J Kathmandu Med College. 2013;2(3):122-8.
2. Balaha M, Amr M, Moghannum M, Muhaida NJPAMJ. The phenomenology of premenstrual syndrome in female medical students: a cross sectional study. Pan Afr Med J. 2010;5(1).
3. Silva CMLd, Gigante DP, Carret MLV, Fassa AGJRdsp. Population study of premenstrual syndrome. Rev Saude Publica. 2006;40:47-56.
4. Aryal S, Thapa B, Pant SBJNJoO, Gynaecology. Premenstrual syndrome and premenstrual dysphoric

disorder in medical and nursing students of a tertiary care teaching hospital in Nepal. 2017;12(1):12-6.
5. Arslantaş H, Abacigil F, Çinakli ŞJSPMJ. Relationship between premenstrual syndrome and basic personality traits: a cross-sectional study. Sao Paulo Med J. 2018;136:339-45.
6. Houston AM, Abraham A, Huang Z, D'Angelo LJJJop. Knowledge, attitudes, and consequences of menstrual health in urban adolescent females. J Pediatr Adolesc Gynecol. 2006;19(4):271-5.
7. Mumtaz T, Roohi N, Iqbal MAJMR, Studies C. A census of premenstrual syndrome in young adolescent girls: Facts about women health in developing country. Med Rep Case Stud. 2018;3(2):1-5.
8. Shamnani G, Gupta V, Jiwane R, Singh S, Tiwari S, Bhartiy SSJNJoP, Pharmacy et al. Prevalence of premenstrual syndrome and premenstrual dysphoric disorder among medical students and its impact on their academic and social performance. National J Physiol Pharmacy Pharmacol. 2018;8(8):1205-8.
9. Henshaw CAJA. PMS: diagnosis, aetiology, assessment and management: revisiting premenstrual syndrome. Eur J Obstet Gynecol Reprod Biol. 2007;13(2):139-46.
10. Sushil K, Kumar KP, Mandira M, Rani G. Prevalence of Premenstrual Syndrome (PMS) including insomnia in some undergraduate medical students of Nepal. Researchgate. 2017.
11. Dadi Givshad R, Nourani Saadoldin S, Esmaily HJJoM, Health R. The relationship of perceived severity of premenstrual syndrome with knowledge, attitude and recorded severity of syndrom by a daily calendar among university students in Iran. J Midwifery Reproduct Health. 2016;4(1):522-9.
12. Chayachinda C, Rattanachaiyanont M, Phattharayuttawat S, Kooptiwoot SJJoPO, Gynecology. Premenstrual syndrome in Thai nurses. J Psychosom Obstet Gynaecol. 2008;29(3):203-9.
13. Iman B, Hanan S EEA. Prevalence of premenstrual syndrome and the effect of its severity on the quality of life among medical students. Researchgate. 2010.
14. Tenkir A, Fisseha N, Ayele BJEJoHD. Premenstrual syndrom: prevalence and effect on academic and social performances of students in Jimma University, Ethiopia. Researchgate. 2003;17(3):181-8.
15. Rizk DE, Mosallam M, Alyan S, Nagelkerke NJAoegS. Prevalence and impact of premenstrual syndrome in adolescent schoolgirls in the United Arab Emirates. Researchgate. 2006;85(5):589-98.

Cite this article as: Poudel E, Bist A, Amita KC. Knowledge, attitude, experience and management on premenstrual syndrome among secondary level adolescence girl students of Kirtipur Municipality, Kathmandu, Nepal. Int J Sci Rep 2023;9(5):137-44.