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RESEARCH ARTICLE

Premenstrual syndrome among adolescent girls and its influence on academic performance- A cross-sectional study

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Abstract

Premenstrual syndrome (PMS) is a commonly seen clinical condition with cyclic occurrence. It shows physical, and emotional symptoms, and is known to interfere with activities of daily living. Hence this study was undertaken to find the prevalence of PMS among adolescent students and its association with socio-demographic variables and academic performance. A random cluster sampling technique was used to select eight schools in Belagavi city. A total of 478 adolescent female students were enrolled in the study. Results showed that among 478 adolescent students, (207) 43% of the students had mild symptoms and (191) 40% of them had moderate symptoms of PMS. PMS had a significant association with age group and the father's occupation. As per multiple logistic regressions, the chance of developing PMS is higher in students of the age group 14 to 15 years, whose mothers were illiterate. It is also noted that PMS has more chance of causing poor academic performance in the students. To conclude PMS is one of the most common problems seen in high school students. Regular screening of PMS can identify school girls who can be prevented from suffering and can in turn improve their academic performances.

Keywords: Premenstrual syndrome, Adolescent students, Prevalence, Association.

Introduction

Premenstrual syndrome (PMS) is one of the common health problems related to menstruation in adolescent girls (Upadhyay, Mahishale and Kari, 2023). It is seen, a week earlier to menses (late luteal phase) and it disappears within four days of menstrual onset spontaneously (Direkvand-Moghadam, Sayehmiri, 2001). PMS is a clinical condition with the chrematistics of physical and emotional symptoms unrelated to any organic disease (ACOG PRACTICE BULLETIN, 2001). The prevalence globally is 47.8% (95% CI: 32.6–62.9) (Sattar, 2014) and it differs from country to country. India reports a prevalence range of 14.3 to 74.4% (Dutta, and Sharma, 2021).

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Common symptoms of PMS include; mood swings, irritability, depression, headache, cramps in the abdomen, generalized body pains, breast discomfort, abdominal bloating, and appetite changes (Geta, Woldeamanuel, and Dassa, 2020; Seedhom, Mohammed, and Mahfouz, 2013). PMS symptoms are often seen as mild but may range to severe by affecting day-to-day activities. Indians have many stigmas about menstruation and related discomfort, which are the biggest barrier for adolescents to seek help for their physical and mental discomfort.

PMS is a most common condition yet it is often neglected and considered as a common phenomenon by all. Hence this study was intended to assess the prevalence of PMS and to find the associated risk factors.

Materials and Methods

A study was conducted using a cross-sectional survey design in 8 schools of Belagavi city including both government and private high schools. A random cluster sampling technique was used to select the schools. The sample size was 478 adolescent female students. Data was collected only by students who had attained menarche one year before. Students with menstrual issues and who are on treatment were excluded from the study. Tools used were the premenstrual syndrome rating scale (PMSS) which consists of 40 items and demographic variables. Ethical clearance was obtained from the Institutional Ethical Committee of KAHER,

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Belagavi. Permission for data collection was obtained from both government and private high school principals. Written informed consent was obtained by the parents of students.

Data Collection

Participants were briefed about PMS and its symptoms, followed by the objectives and purpose of the study. Informed consent was taken from the study participants. Tood was administered to collect the data. Data were analyzed using SPSS software.

Table 1: Highlights the overall responses of the socio-demographic profile of adolescent students.

Demographic variables	*Frequency (f)*	*Percentage (%)*
1) Age groups (years)		
13	99	20.71
14	170	35.56
15	147	30.75
16 and above	62	12.97
2) BMI		
Underweight	303	63.39
Normal	154	32.22
Overweight	21	4.39
3) Religions		
Hindu	379	79.29
Muslim	66	13.81
Christian	7	1.46
Others	26	5.44
4) Education of mother		
Illiterate	38	7.95
Primary (1–10 std)	250	52.30
PUC	97	20.29
Degree	73	15.27
Post Graduate	20	4.18
5) Education of father		
Illiterate	35	7.32
Primary (1–10 std)	184	38.49
PUC	112	23.43
Degree	107	22.38
Post Graduate	40	8.37
6) Occupation of mother		
Government	34	7.11
Private	87	18.20
Self-employed	44	9.21
Housewife	313	65.48
7) Occupation of father		
Government	90	18.83
Private	220	46.03
Self-employed	168	35.15
8) Type of family		
Nuclear	340	71.13
Joint	138	28.87

Results

The results of the study are interpreted in 3 sections:

Section I

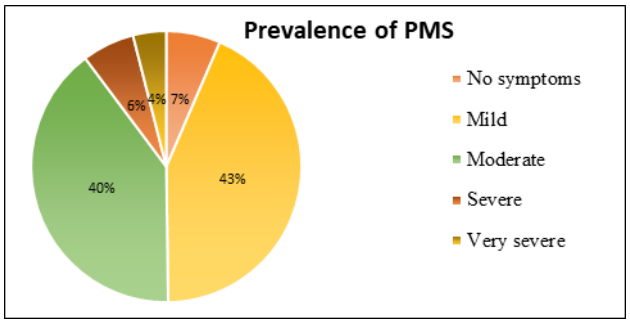
Socio-demographic profile of adolescent students: Majority of the adolescent girls belong to the age group of 14 years 170 (35.56%), most of the girls were underweight 303 (63.39), Around 379 (79.29%) were belonging to Hindu religion, majority of their parents were educated and had completed primary education. Majority of the girls' mothers were housewife's 313 (65.48%) and fathers were private employees 220 (46.03), about 340 (71.13%) were belonging to nuclear families (Table 1).

Table 2: Lifestyle patterns of adolescent students: n = 478

Demographic profile	*No of students*	*% of students*
Coffee consumption		
Yes	187	39.12
No	291	60.88
Exercise habits		
Yes	178	37.24
No	300	62.76
Presence of chronic diseases		
Yes	39	8.16
No	439	91.84

Table 3: Academic performance of adolescent students

Demographic profile	*No of students*	*% of students*
Absenteeism to school		
1–2 days per month	261	54.60
3–4 days per month	85	17.78
> 5 days a month.	7	1.46
Not absent	125	26.15
Performance in studies		
Good	276	57.74
Average	174	36.40
Poor	28	5.86
Performance in sport		
Good	202	42.26
Average	237	49.58
Poor	39	8.16
Performance in cultural		
Good	221	46.23
Average	216	45.19
Poor	41	8.58



Prevalence of PMS showed 207 (43%) of the students had mild symptoms, and 191(40%) had moderate symptoms.

Figure 1: Prevalence of PMS among adolescent students n = 478

Section II

Prevalence of PMS among adolescent students (Figure 1). (n = 478)

Section III

Association between PMS and demographic characteristics of adolescent girls.

Association between PMS and demographic characteristics of adolescent girls

Premenstrual syndrome had a significant association with the age group and the father's occupation of students at an o.o5 level of significance as per the Chi-square test.

Association between PMS and lifestyle of adolescent Girls

Premenstrual syndrome had a significant association with the presence of chronic diseases in students at an 0.05 level of significance as per the Chi-square test. Whereas coffee consumption and exercise patterns had no significant association. About 187 (39.12%) had a habit of consumption of coffee, 300 (62.76%) of girls had no habit of regular exercise and 39 (8.16%) of the girls had some chronic diseases (Table 2).

Confounding factors as per multiple logistic regression analysis

The age of 14 and 15 years have nearly 0.62 (95% C.I, 0.45–0.84) and 1.77 (95% C.I, 1.27–2.48) odds, respectively. Students whose mothers were Illiterate 0.52 (95% C.I, 0.27–1.02), poor academic performance 0.33 (95% C.I, 0.14–0.78), are the contributing factors, statistically significant and associated with PMS. The academic performance of adolescent girls in which 261 (54.60%) of the students were absent for school for at least 1 to 2 days per month, 276 (57.74%) had good performance in studies, 237 (49.58%) average performance in sports and 221 (46.23%) had good performance in cultural activities (Table 3).

Discussion

The present study successfully determined premenstrual syndrome prevalence. This showed 445 (93%) students had some PMS symptoms and only 33 (7%) of them had no symptoms. Among 478 students 207 (43%) of them had mild symptoms and 191 (40%) of them had moderate symptoms, whereas in a study conducted by (Abu Alwaf, Badrasawi, and Haj Hamad, 2021) showed all study participants 398 (100%) suffered from some kind of PMS symptoms which is high compared to the present study. Among them, 232 (58.3%) and 68 (17.1%) had moderate and severe PMS symptoms, respectively. Variations in the results may be due to differences in the diagnostic tool used, the age of students, and variations in a geographic region as per the meta-analysis conducted by (Dutta, and Sharma, 2021).

The present study showed the presence of an association between age with PMS but no association with coffee consumption. Jimma University's study also showed an association between age and coffee consumption with PMS symptoms (Dutta, and Sharma, 2021).

Conclusion

It is observed that 93% of students suffer from some kind of PMS symptoms and it also affects academic performance. Many of the symptoms can be overcome just by simple aerobic exercise, yoga movements, dietary habits, and modification in daily living. Hence it is important to educate the school students on PMS home remedies in turn will improve their quality of life.

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References

Abu Alwafa, R., Badrasawi, M., and Haj Hamad, R. (2021). Prevalence of premenstrual syndrome and its association with psychosocial and lifestyle variables: a cross-sectional study from Palestine. BMC Women's Health, 21(1). https://doi.org/10.1186/s12905-021-01374-6

ACOG PRACTICE BULLETIN. (2001). International Journal of Gynecology and Obstetrics, 73(2), pp.183–191. doi:https://doi.org/10.1016/s0020-7292(01)00400-3.

Ashraf DM, Kourosh S, Ali D, Sattar K (2014) Epidemiology of Premenstrual Syndrome (PMS)-A systematic review and meta-analysis study. J Clin Diagn Res 8: 106-109.

Bharadwaj, B., Bhuvaneswari, K., and Rabindran, P. (2019). Prevalence of premenstrual syndrome and its impact on quality of life among selected college students in Puducherry. The National Medical Journal of India, 32(1), 17. https://doi.org/10.4103/0970-258x.272109

Çitil, E. T., and Kaya, N. (2021). Effect of pilates exercises on premenstrual syndrome symptoms: a quasi-experimental study. Complementary Therapies in Medicine, 57, 102623. https://doi.org/10.1016/j.ctim.2020.102623

Dutta, A., and Sharma, A. (2021). Prevalence of premenstrual syndrome and premenstrual dysphoric disorder in India: A systematic review and meta-analysis. Health Promotion Perspectives, 11(2), 161–170. https://doi.org/10.34172/hpp.2021.20

Eshetu, N., Abebe, H., Fikadu, E., Getaye, S., Jemal, S., Geze, S., Mesfin, Y., Abebe, S., Tsega, D., Tefera, B., and Tesfaye, W. (2022). Premenstrual syndrome, coping mechanisms and associated factors among Wolkite university female regular students, Ethiopia, 2021. BMC Women's Health, 22, 88. https://doi.org/10.1186/s12905-022-01658-5

Geta, T. G., Woldeamanuel, G. G., and Dassa, T. T. (2020). Prevalence and associated factors of premenstrual syndrome among women of the reproductive age group in Ethiopia: Systematic review and meta-analysis. PLOS ONE, 15(11), e0241702. https://doi.org/10.1371/journal.pone.0241702

Katjiukua, C. R., Simon, N., Chatterjee, A., and Akinola, A. (2020). Prevalence and knowledge of premenstrual syndrome among adolescent girls in India. International Journal of Community Medicine and Public Health, 7(12), 5169. https://doi.org/10.18203/2394-6040.ijcmph20205202

Sattar, K. (2014). Epidemiology of Premenstrual Syndrome, A Systematic Review and Meta-Analysis Study. JOURNAL of CLINICAL and DIAGNOSTIC RESEARCH, 8(2). https://doi.org/10.7860/jcdr/2014/8024.4021

Seedhom, A. E., Mohammed, E. S., and Mahfouz, E. M. (2013). Life Style Factors Associated with Premenstrual Syndrome among El-Minia University Students, Egypt. ISRN Public Health, 2013, 1–6. https://doi.org/10.1155/2013/617123

Tenkir, A., Fisseha, N., and Ayele, B. (2003). Premenstrual syndrom: prevalence and effect on academic and social performances of students in Jimma University, Ethiopia. Ethiopian Journal of Health Development, 17(3), 181–188. https://doi.org/10.4314/ejhd.v17i3.9838

Upadhyay, M., Mahishale, A., and Kari, A. (2023). Prevalence of premenstrual syndrome in college going girls - A cross sectional study. Clinical Epidemiology and Global Health, 20, 101234. https://doi.org/10.1016/j.cegh.2023.101234

W, L., S, L., J, A., Rs, L., and Sk, K. (2022). Premenstrual syndrome incidence rate and risk factors among the working population in the Republic of Korea: a prospective cohort study. BMC Women's Health, 22(1). https://doi.org/10.1186/s12905-022-01852-5