e-ISSN: 0975-1556, p-ISSN:2820-2643

Available online on www.ijpcr.com

International Journal of Pharmaceutical and Clinical Research 2024; 16(3); 1227-1232

Original Research Article

A Study on Behavioural Changes and the Methods of Coping Due to Pre Menstrual Tensions in the Medical Students

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Received: 25-12-2023 / Revised: 23-01-2024 / Accepted: 26-02-2024
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Conflict of interest: Nil

Abstract:

Background: Young women experience certain difficulty in coping up with premenstrual tensions commonly. It has few destructive effects on their behaviour, activity and interpersonal relations with their friends. Premenstrual syndrome is one of the common menstrual disorders in adolescents. It is important to be watchful of the destructive effects due to these effects especially on medical students.

Aim of the study: To study the role of demographic data, risk factors and to determine the certain factors playing a role on the prevention of premenstrual tension syndrome among the medical students.

Materials: A cross sectional voluntary survey was performed in a Medical College and Tertiary Hospital among the 278 female medical students. The data included demographic details, and obtaining answers to a valid and reliable questionnaire pertaining to the behavioral changes and their role on preventive methods.

Statistical analysis: SPSS software version 16 was used for both descriptive and logistic regression.

Results: 54 (19.42%) students were mild mannered, 37 (13.30%) were aggressive, 127 (45.68%) were with a positive attitude towards life, 24 (08.63%) students were with a negative attitude of life and 36 (12.94%) students were depressive. The grading of the psyche was 'Always' in 51 (18.34%), 'often' in 56 (20.14%), 'sometimes' in 92 (33.09%), 'rarely' in 42 (15.10%) and 'never' in 37 (13.30%) of the students. The mean (SD) score of adoption of preventive behaviours of premenstrual syndrome was 19.25 (0.63) out of 50, and it was low. Also, knowledge of PMS, regular physical activity, parent's education level, was the factors affecting the adoption of preventive behaviours of premenstrual syndrome ($P < 0.05$).

Conclusion: The prevalence of PMS was high among the medical students. The PMS was observed more commonly among the aggressive, depressive and negative type of personalities. The adoption of PMS was poor among the students who were inactive in physical activity. The adoptive measures to prevent PMS were good with students whose parents had higher education, students with regular physical exercise and in students who had knowledge of PMS.

Keywords: Premenstrual tension Syndrome, Preventive behaviour, Female Students.

Introduction

The quality of life is affected in women during their premenstrual period due to a complex changes occurring in the physical, psychological and emotional parameters. These changes are important to control and cure otherwise may lead to affect the homely and social life. [1] It is opined by many authors that one of the commonest psychosocial disorders is premenstrual tension syndrome. [2] The changes that occur during this period are varying from sedentary life style, disordered daily routines, motivational scarcity, and unable to do normal activities accurately. When the severity increases in few women it leads to lifestyle changes, their comfort and in turn their health. [3] Premenstrual syndrome (PMS) involves endocrine system, neurological system and the psyche. It occurs cyclically and results in psychological, behavioral and physical symptoms occurring after every monthly ovulation for a period of few days of menstrual onset or otherwise the first week of luteal phase. [4] Added to these changes academic stress and new environment of the campus, and interpersonal relations play their role as risk factors to enhance the effects of PMS. [5] PMS symptoms are enumerated to be more than 150 and include breast tenderness, irritability, depression, drained of energy feeling, myalgias, aggressive attitudes, joint pains, varying degrees of edema of limbs and body, altered appetite, difficult to concentrate on studies, headache, triggering of migraine, changes in sexual desire, bloating sensation of abdomen and periods of intense crying

and suicidal tendencies. [6] Prevalence of PMS in the societies varies from country to country and climate to climate. [7] Its range is from 05 to 96% with a mean of 48% all over the world. [8] Literature on PMS is widely discussed on adult PMS and its effects and risk factors in adults. But it is studied in limited terms in the young women. [9] The mood and emotional changes associated with PMS when combined with the academic stresses and new environment may lead to quarrelling with others.

Most of the women are not aware of the cause for their behaviour, due to lack of understanding. Lack of knowledge of PMS leads them being labelled as negative personalities which further results in their increased tension, physical and behavioral conflicts. [10] PMS in young women leads to anxiety in their parents and relatives. [5] Ahmadi et al, reported 37% [10] and Bakhshani et al, [11] reported 83.1% of young women were affected by PMS. Many preventive measures have been described and practiced by authors who have published their findings in the medical literature. They include prescribing calcium-rich foods (milk and yogurt), multivitamin supplements, regular morning exercises, trying to avoid stressful scenes. [5]

Most of the medical students are aged between 17 and 20 years when they join their course and during this period they develop not only lifestyle but also their professional life. Hence they are the future of any country and to promote personality development in them by treating or preventing PMS is one of the priority programs in health and prevention medicine in the world. [12] In India there are not many studies which are directed towards the preventive aspects of PMS leading to negative personality in the young women. [12] The first step to emulate a definite protocol in preventing the PMS effects is to conduct an epidemiological survey. [13] The present study is aimed at studying the role of demographic data, risk factors and to determine the certain factors playing a role on the prevention of premenstrual tension syndrome among the medical students.

Methods

Period of Study: Jan 2023 to June 2023

Type of Study: A descriptive-analytical cross-sectional study

Institute of Study: Kannur Medical College, Anjarakandy, Kannur, Kerala.

Methods: A study was conducted through survey of 278 medical students studying at Kannur Medical College, Anjarakandy, and Kerala. An ethics committee approval was obtained from the institute. Approved proforma and questionnaire was used during the study. Sampling method used was random multistage type in such a way that equal number of students were issued questionnaire from each year (regular and supplementary batches).

Inclusion criteria: Medical students aged above 17 years and below 25 years were included. Students who were health without acute or chronic diseases were included. Students experiencing regular menstrual cycles for the past one year were included. Students not using any hormones were included. Students willing to take part voluntarily in the survey were included (required filling the consent form and answering the questionnaire without discussion with their friends)

Exclusion criteria: Students below 17 years and above 25 years were excluded. Students with irregular menses, using hormones and other drugs were excluded. Students with psychiatric illnesses were excluded. Students with history of head injuries were excluded. Students submitting incomplete questionnaire were excluded. Students who were not residing in the hostels were excluded.

Sample size: Initially a pilot study was conducted with 40 medical students and the p value calculated was 0.25 for adoption of preventive behaviours of premenstrual syndrome. Using the Cochran's sample size formula and calculating d = 0.05, the sample size was estimated to be 278 Students. The questionnaire consisted of two sections; one section included elicitation of details about the Demography; included age, religion, year of study, onset of menstruation age, parent's education, parent's work, income status, daily physical activity, number of siblings, and the birth rank in the family.

The second part consisted of a questionnaire validated by the researchers designed by Khalilipour Darestani and Panahi [14] was used to assess the nature of psyche and manners during the PMS. It had 10 items with a 5-level scale: 5 points: Always, 4 points: often, Sometimes: 3 points, rarely: 2 points and never: 1 point. The score range was between 10 and 50. The questionnaire with an acceptable CVR and CVI scores (CVR = 0.98, CVI = 0.89) was confirmed. To make the questionnaire more reliable the students who were given it were of the same class and Cronbach's alpha coefficient was calculated to be 0.91. The rate of accepting the rate of adoption of preventive behaviors was classified as two grades. Poor: scoring less than 50%. Good: scoring 50 to 100%. This classification was also used for the logistic regression in the study. The questionnaires were self-explaining and the students were taken into confidence that the information would be kept confidential.

Statistical Analysis: The data collected was analyzed using SPSS software version 16 and descriptive statistics and logistic regression. The

first class of variables was selected as the reference class. The significant level was also considered less than 0.05.

Results

Totally 314 female medical students were willing to participate in the survey and were issued questionnaire, but only 278 students submitted completed proformas, hence 36 proformas were deleted. The participation rate was 88.53%. Among the 278 students, 151 (54.31%) students were aged below 19 years. 86 (30.93%) students were aged between 20 and 22 years. 41 (14.74%) students were aged between 23 and 24 years. (Table 1) There were 182 (65.46%) Hindus, 53 (19.06%) Muslims, 31 Christians and 12 Sikhs among the subjects in this study. 93 (33.45%) were studying first year MBBS, 88 (31.65%) second year, 71 (25.53%) third year and 36 (12.94%) studying third MBBS part-II in the study. Age at Menarche was noted in the study and found that there were 129 (46.40%) at 12 to 13 years, 83 (29.85%) at 13 to 14 years and 66 (23.74%) at the age of 14 to 15 years. Parent's education was below intermediate in 117 (42.08%), graduate in 86 (30.9.3%) and 75 (26.97%) postgraduate parents. 120 (43.16%) parents were farmers, 67 (24.10%) working in offices as clerks, 54 (19.42%) parents were doing business and parents were professionals in 37 (13.30%) students. Social status was belonging to low category in 135 (48.56%), 68 (24.46%) belonging to middle income group and 65 belonging to high income group in the study.

Daily physical activity is reported in 87 (31.29%) students and no physical activity reported in 191 (68.70%) students in the study. (Table 1) The results also pointed out that the level of education of the parents also played an important role in controlling the emotional aspects of the students with PMS (p value 0.001). Physical activity (P = 0.001) was another factor noticed in the study which was helpful in adapting to PMS in the study. There was no significant relationship between age, religion, parental employment status, number of family members and birth rank in the family with premenstrual syndrome preventive behaviours (P > 0.05).

Table 1: Showing the demographic data of the students in the study (n-28)

Observation	Number	Percentage	P value
Age			0.241
17 to 19	151	54.31	
19 to 21	86	30.93	
22 to 24	41	14.74	
Religion			0.325
Hindu	182	65.46	
Muslim	053	19.06	
Christians	031	11.51	
Sikhs	012	04.31	
Year of study			0.425
First year	093	33.45	
Second year	088	31.65	
Third year part-I	071	25.53	
Third year part-II	036	12.94	
Age of Menarche			0.611
12 to 13	129	46.40	
13 to 14	083	29.85	
14 to 15	066	23.74	
Parent's education			**0.001**
Below Intermediate	117	42.08	
Graduate	086	30.93	
Post graduate	075	26.97	
Parents work			0.115
Farmer	120	43.16	
Clerk	067	24.10	
Business	054	19.42	
Professional	037	13.30	
Social status			0.314
Low	135	48.56	
Middle	068	24.46	
High	065	23.38	
Daily physical activity			**0.001**
Present	087	31.29	

Absent	191	68.70	
Number of siblings			0.144
0	086	30.93	
1	083	29.85	
2	091	32.73	
3	018	06.47	
Birth rank			0.234
1	177	63.66	
2	089	32.01	
3	012	04.31	

Table 2 showed the factors to determine the effects of adoption and preventive behaviors in students with PMS in the study. 54 (19.42%) of the students were mild mannered, 37 (13.30%) were aggressive, 127 (45.68%) were with a positive attitude towards life, 24 (08.63%) students were with a negative attitude of life and 36 (12.94%) students were depressive.

The part 2 of the questionnaire showed the grading of the psyche as Always in 51 (18.34%), often in 56 (20.14%), sometimes in 92 (33.09%), rarely in 42 (15.10%) and never in 37 (13.30%) of the students. The findings showed that the variables used in the study predicted a total of 72.8% of them adapting to the preventive behaviors of premenstrual syndrome ($R^2 = 0.728$).

Also, the mean (SD) score of adoption of preventive behaviours of premenstrual syndrome in participating students was 19.25 (0.63) out of 50. In other words, the participants received 38.5% of the score of adoption of preventive behaviours of premenstrual syndrome. (Table2)

Table 2: Showing the Assessment of the Psyche of the subjects (n-278)

Observation	Number	Percentage	R^2	P value
Nature of Psyche				
Mild mannered	054	19.42		
Aggressive	037	13.30	0.728	
Positive attitude	127	45.68		0.001
Negative attitude	024	08.63		
Depression	036	12.94		
Grading				
Always	051	18.34		
Often	056	20.14	0631	
Sometimes	092	33.09		0.001
Rarely	042	15.10		
Never	037	13.30		

Discussion

The present study was aimed to find out the different factors which helped in the prevention of premenstrual syndrome among pre-university students in a Medical college. The preventing behaviour to adopt the PMS was found to be low in the students of this study. The factors causing such an attitude may be due to lack of knowledge of the PMS because there was a direct relation between the insufficient knowledge and attitude regarding PMS. [15,16]

Similar results were also reported by Panahi et al. [17], Gharlipour et al. [18] and Panahi et al. [19]. But at the same time our results were inconsistent with the results of Panahi et al. [17], Peyman et al. [20] and Farshbaf Khalili and Colleagues [21] that showed moderate preventive behaviors adoption. The most probable reason was the differences in the age of the participants (they were aged above 25 years) and also the difference was in the type of preventive behaviours. The present study showed that one of the most effective adoptive measures was physical activity. In fact physical activity is a kind of preventive behaviour by itself. The results of Ghaffari et al. study showed that exercise at regular times over certain periods resulted in the severity of PMS. [22] Similarly the results of Safavi Naeini[23] proved that exercise was effective in reducing the symptoms of premenstrual syndrome. [24] There was another study in parallel terms with the present study which showed results by Panahi et al. [17] and Masoumi SZ, Shayan A et al. [25]. Parent's level of education was another interesting factor which influenced the adoption measures of preventing PMS. As education remains as a social indicator of socio-economic status, which also affects the knowledge, attitude and skills necessary to adopt health-related behaviours. [26]The positive attitude in a student and lack of other psychological factors also prevent the PMS. In this study it was observed that the chances of

correction of PMS symptoms increased with the positive attitude of the students. These results are consistent with the results of studies by Panahi et al. [17], Morowatisharifabad MA et al. [27], Osmani F, JavanmardiKet al. [28], and Ramezankhani A, Tavousi M et al. [29]

Limitations to this study: The limitations of this study were a small sample size, unable to analyze the data of students removed from the study. As the questionnaire was self-reporting type, it was difficult to compare with other studies.

Conclusions

The prevalence of PMS was high among the medical students. The PMS was observed more commonly among the aggressive, depressive and negative type of personalities. The adoption of PMS was poor among the students who were inactive in physical activity. The adoptive measures to prevent PMS were good with students whose parents had higher education, students with regular physical exercise and in students who had knowledge of PMS.

References

1. Paul S, Pal A. Premenstrual syndrome and premenstrual dysphoric disorder: A review of their history with an eye on future. Ann Indian Psychiatry [Internet]. 2023;6(4):393.
2. Direkvand-Moghadam A, Sayehmiri K, Delpisheh A, Satar K. Epidemiology of Premenstrual Syndrome (PMS)-A Systematic Review and Meta-Analysis Study. J ClinDiagn Res [Internet]. 2014 Feb 3;8(2):106.
3. Takeda T, Tasaka K, Sakata M, Murata Y. Prevalence of premenstrual syndrome and premenstrual dysphoric disorder in Japanese women. Arch WomensMent Health [Internet]. 2006 Jul 9;9(4):209–12.
4. Dutta A, Sharma A. Prevalence of premenstrual syndrome and premenstrual dysphoric disorder in India: A systematic review and meta-analysis. Heal PromotPerspect [Internet]. 2021; 11(2):161.
5. KahyaogluSut H, Mestogullari E. Effect of Premenstrual Syndrome on Work-Related Quality of Life in Turkish Nurses. Saf Health Work [Internet]. 2016 Mar;7(1):78–82.
6. Hylan Tr, Sundell K, Judge R. The Impact of Premenstrual Symptomatology on Functioning and Treatment-Seeking Behavior: Experience from the United States, United Kingdom, and France. J Womens Health Gend Based Med [Internet]. 1999 Oct;8(8):1043–52.
7. Steiner M, Macdougall M, Brown E. The premenstrual symptoms screening tool (PSST) for clinicians. Arch WomensMent Health [Internet]. 2003 Aug 1; 6(3):203–9.
8. Endicott J, Nee J, Harrison W. Daily Record of Severity of Problems (DRSP): reliability and validity. Arch WomensMent Health [Internet]. 2006 Jan 15;9(1):41–9.
9. Easton S, Laar D Van. User Manual for the Work-Related Quality of Life (WRQoL) Scale: A Measure of Quality of Working Life. 2018.
10. Mishra A, Banwari G, Yadav P. Premenstrual dysphoric disorder in medical students residing in hostel and its association with lifestyle factors. Ind Psychiatry J [Internet]. 2015 [cited 2023 Mar 15];24(2):150.
11. Majeed-Saidan MMA, AlKharraz N, Kaaki K, AlTawil N, Alenezy S, Ahamed SS. Prevalence of Premenstrual Syndrome Levels and Its Management Among Female Students of Medical and Non-Medical Colleges in Riyadh. Cureus [Internet]. 2020 Nov 20;12(11).
12. Maity S, Wray J, Coffin T, Nath R, Nauhria S, Sah R, et al. Academic and Social Impact of Menstrual Disturbances in Female Medical Students: A Systematic Review and Meta-Analysis. Front Med. 2022 Feb 15; 9:165.
13. Halbreich U. Premenstrual Dysphoric Disorders, Anxiety, and Depressions: Vulnerability Traits or Comorbidity. Vol. 52, Archives of General Psychiatry. 1995. p. 606.
14. Khalilipour M, Panahi R. Effect of Education on Promoting Preventive Behaviors of Premenstrual Syndrome in Female Adolecents: Health Belief Model Application. J Educ Community Health 2017; 4:44-54.
15. Steiner M, Pearlstein T, Cohen LS, Endicott J, Kornstein SG, Roberts C, et al. Expert guidelines for the treatment of severe PMS, PMDD, and comorbidities: The role of SSRIs. J Women's Heal. 2006 Jan;15(1):57–69.
16. Da Silva CML, Gigante DP, Minten GC. Premenstrual symptoms and syndrome according to age at menarche in a 1982 birth cohort in southern Brazil. Cad SaudePublica. 2008 Apr;24(4):835–44.
17. Panahi R, Yekefallah L, Shafaei M, Dehghankar L, Anbari M, Hosseini N, Hasannia E. Effect of health literacy among students on the adoption of osteoporosis-preventive behaviors in Iran. J Edu Health Promot 2020; 9:191.
18. Gharlipour Z, Hazavehei SM, Moeini B, Nazari M, Moghimbeygi A. Effectiveness of educational program on promotion of smoking preventive behaviors in adolescences. Health Syst Res 2013; 9:354-61.
19. Panahi R, Namdar P, Siboni FS, Fallah S, Anbari M, Dehghankar L, et al. Association between health literacy and adopting preventive behaviors of breast cancer in Iran. J Edu Health Promot 2020; 9:241.
20. Peyman N, Amani M, Esmaily H. The Relationship between Health Literacy and the Theory of Planned Behavior on breast cancer screening programs among rural women in

Roshtkhar, Iran 2015. Iran J Breast Dis 2016; 9:60-9.
21. FarshbafKhalili A, Rezaie-chamani S, Seidi S, Ziyadi S. Preventive Behaviors Related to Women's Genital Tract Infections. J Holist Nurs Midwifery 2016; 26:74-85.
22. Ghaffari F, Fotokian Z, Mazloom SR. The effect of regular group exercise program on self-esteem of nursing students. JBUMS 2007;9: 52-7.
23. SafaviNaeini K. The comparison between aerobic and physical exercises effects on PMS of women in Shiraz. Med Sci 2008; 18:177-180.
24. Zare H, Taraj S. The effect of premenstrual syndromes on the function of short-term, long-term and provident memory of afflicted women. IJOGI 2009; 12:1-8.
25. Masoumi SZ, Shayan A, Shobeiri F, Roshanaei G, Khanialamooti M. The Effect of Training Premenstrual Coping Skills in Undergraduate Students in the School of Nursing and Midwifery, Hamadan-Iran. PCNM 2017; 7:44-51.
26. Moradi G, Rahimzadeh A, Amani S, Yousefi J, Rahmani K, Bagheri S. Barriers and Strategies of Fruit and Vegetable Consumption in High School Students in Sanandaj. J Educ Community Health 2018; 5:18-25.
27. Morowatisharifabad MA, Panahi R, Ramazankhani A, Falahzadeh H, MirzaeiAlavijeh M. The Survey of knowledge, attitude and chewing gum status of 15 years old and older in Karaj city regarding health Effects of chewing Gum. TB 2014; 12:125-33.
28. Osmani F, Javanmardi K, Ramezankhani A, Dehghankar L, Amini RA, HaeriMehriz AA, Amjadian MA, Anbari M, Hosseini N. The relationship between different levels of Health Literacy and smoking prevention among medical sciences student. Int J Prev Med 2021; 12:124.
29. 29. Ramezankhani A, Tavousi M, Osmani F, Niknami SH. Knowledge and Attitude of Dormitory Students of Shahid Beheshti University of Medical Sciences about Smoking in 2016. HEHP 2016; 4:51-61.