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Prevalence Of Premenstrual Syndrome Among Physiotherapy Students and its Effect on Their Academic Performance: A Cross- Sectional Study

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ABSTRACT

Background and objective: Physiotherapy is the health care profession in which students are spending their most of the time in classes and postings. During PMS (premenstrual syndrome) students are not able to fulfil their and profession needs. So, the present study was conducted to evaluate the prevalence of premenstrual syndrome among physiotherapy students and its effect on academic performance.

Methods: A cross-sectional study was conducted among 89 physiotherapy students studying in different physiotherapy colleges in Moodbidri, Karnataka. Data was collected with help of an Online Google form™ with two outcome measure. Premenstrual syndrome scale (PMSS) was used to find out the prevalence of premenstrual syndrome and a self- questionnaire was prepared to evaluate effect of PMS on academic performance.

Result: Result shows a moderate prevalence of PMS among physiotherapy students, which is 39.3% with a significant negative relationship between premenstrual syndrome and academic performance in physiotherapy students.

Conclusion- There is significant negative relationship is present between Premenstrual syndrome (PMS) and Academic performance of physiotherapy students.

Keywords: Premenstrual syndrome, Academic performance, physiotherapy students, India.

INTRODUCTION

Premenstrual syndrome (PMS) is a cyclic phenomenon occurring during the late luteal phase of the menstrual cycle. [1] PMS usually starts 6 to 12 days before menstruation.[2] and one week before menstruation is typically uncomfortable for the women of reproductive age and they start feeling the PMS symptoms.[3] The WHO international classification of disease classified PMS under the heading disease of genitourinary tract, that is associated with substantial distress and functional impairment among females.[2,4] The prevalence of PMS in India is ranged from 14.3% to 74.4%.[5]

PMS is characterized as a collection of with or without physical symptoms, emotional/Psycho-behavioral and somatic symptoms. Physical symptoms are abdominal pain, headache, swelling, breast tenderness, low back pain, irritability, anger, fatigue, and mood swings.[6,7] Psycho-behavioral symptoms

include decreased interest in hobbies, sitting steadily moreover thatSomatic symptoms are associated with Tiredness, oversleeping, which was experienced by 78.2% of individuals[8,9.]

The pathophysiology of PMS is not clear. Recent research conducted by Lulu Hou (2019) et al shown that premenstrual syndrome in women caused by stress- induced dysregulation of the hypothalamic-pituitary axis[10]which leads to defect in adrenal hormone secretion and leads to PMS.[2]

Premenstrual symptoms have an impact on student's academic performance in a number of ways, including study time, focus, engagement in group activities, performance on exams and attendance. And the students are unable to focus on subjects for a long period of time due to PMS.[11, 12]

Physiotherapy is one of the health professions working to improve human movement and function[7]and students are spending their most of the time in classes and postings to treat patients. During their PMS students are not able to fulfil their and profession needs.[13] They will be exposed to several type of stressors during academic years such as problem-solving skill, skill performance, effective therapeutic communication and sitting for prolonged period in classes and clinics, clinical practice under the strict clinical instructor, fear of making mistakes during clinical posting, poor time management, inadequate facilities, exam pressure these all can increase stress level among students and can leads to PMS.[14]

PMS has a negative impact on female student's cognitive functioning (e.g., attention, memory) and academic achievement, which can lead to absenteeism from college.[15,16] Overall PMS is related to high absenteeism rates, poor academic performance and acute psychiatric problems and this stress increase HPA -axis activity and leads to PMS[13].

Students in medical field should be more aware of these problems and were unwilling to admit that their absences caused by menstruation disorders. The students were also less likely to share information or discuss it to gynaecologist or taking any medical care or treatment. This leads one to believe that the majority of women view menstrual illnesses as natural and don't look for a cure, preferring instead to put up with them or learn to live with them.[17] lack of knowledge leads to inappropriate behaviour to their lifestyle and academic performance. So present study is conducted to evaluate the prevalence of PMS and its effect of academic performance of physiotherapy students.

2. Materials and methods

2.1 Ethical clearance and consent

Ethical clearance was obtained from institutional ethical committee (ACP/OP/2023 OL11) of Alva's college of physiotherapy and research centre, Moodbidri, Karnataka. A prior written consent was taken from all the participants to participate in the study on the basis of inclusion and exclusion criteria of the study.

2.2Study design and sample size-

The cross-sectional study was aimed to evaluate the prevalence of premenstrual syndrome and to find out its effect on academic performance among physiotherapy students of moodbdri, Karnataka. Sample size was calculated with epi info software with the outcome of previously conducted study with sample size of n=89 with Two-sided confidence level:95%, Power: 95.0%, Ratio [unexposed: exposed]:1.3%, outcome in unexposed group :40.0%, Risk ratio:5.0, Odds ratio :5.0%, out come in exposed group :76.9%. A non -probability, convenience sampling method was used to recruit participants in the study. As the study was conducted at taluk/ small town level so sample size for present study is small and sample size was calculated in reference of previously conducted study.

2.3 Selection criteria

Healthy female subjects of Alva's college of physiotherapy, age between18-24 year with regular menstrual cycle participated in the study. Students with medical co-morbidity such as PCOD, PCOS and married and pregnant students were excluded from the study.

2.4 Data collection and analysis

Data was collected with the help of online Google form ™, using two questionnaires. Premenstrual syndrome scale questionnaire used to evaluate the premenstrual symptoms and Self -questionnaire to evaluate effect of PMS on academic performance. All the voluntary students were part of the study. The consent form was taken from all the subjects through the same Google form and then data was collected.

2.5Statically analysis

Categorical variables were presented by frequency and percentages and continuous variables by mean and standard deviation. All data was first entered into an excel sheet followed by SPSS 20. Data was analysed for all the participants by converting all the responses into numerical values by assigning values in SPSS 20 version and in the excel sheet and all the data was analysed statistically. Normality test was done to evaluate the distribution of data on the basis of that parametric and non- parametric test were used to evaluate correlation between PMS and academic performance of students.

3 Result

Total 97 students from different physiotherapy colleges across moodbidri, Karnataka participated in the study. Total 89 subjects were taken in the study according to inclusion and exclusion criteria. Age group of the participants is between 18-24 years, the mean value of age group is (22.01±1.050). Most of the participants were of 22 years (40.4%) age group. As shown in table 1-

3.1 PMS (Premenstrual syndrome)

Result shows a moderate prevalence of PMS among physiotherapy students which is 39.3%, no symptoms was experienced by 1 student (1.1%), mild symptoms by 26 students(29.2%), severe symptoms by 25 students (28.1%) and very severe symptoms was experienced by 2 students (2.2%).The mean value of the PMSS for premenstrual syndrome for participants is (3.01± .846). As shown in table 2-

3.2 PMS And Academic performance

Self- made questionnaire was used to evaluate the relationship between PMS and academic performance. And a significant negative relationship was present between Premenstrual syndrome (PMS) and Academic performance. As shown in table 3-

4 Discussion

This study was conducted to evaluate the prevalence of premenstrual syndrome among physiotherapy students and its effect on academic performance. Out of 89 participants only one participant was not affected with PMS. According to the current study a moderate prevalence of Premenstrual symptoms (39.3%) was found among physiotherapy students.

4.1Premenstrual symptoms

The prevalence of Premenstrual symptoms in the current study among physiotherapy students is 39.3 % which is very less in comparison with a study conducted by Manisha Upadhyay et al.[1] among college going girls of Belagavi, Karnataka. The study showed that high prevalence of PMS (86%). The difference in prevalence in relation to present study can be because of use of different PMS diagnostic

tools, study population, socio-demographic, lifestyle characteristics and cultural beliefs and small sample size of study.

Another study conducted by Moghadam et.al [6] and Abhijit Dutta et.al [5]to investigate the prevalence of Premenstrual symptoms. Both The study reported the pooled prevalence of PMS was 47.8 % and 43% which is high in comparison with present study. The reason can be several factors affecting PMS such as age, aerobic exercise and nutrition and environment. The prevalence varied with the geographic region, with the highest prevalence of PMS being reported in Delhi, whereas the lowest prevalence was reported in Kerala.

4.2Premenstrual symptoms and academic performance

In current study significant negative relationship is present between Premenstrual syndrome (PMS) and Academic performance of physiotherapy students in Karnataka. P. Padmavathi et.al [18] and Salma Mohamed Gomaa et.al [11]conducted study among adolescent girls to correlate the premenstrual symptoms and academic performance. Their findings showed that there was significant correlation between premenstrual symptoms and academic performance. Duringpre-menstrual time, the participant was reported in changes during by premenstrual phases in several ways specially learning motivation and abilities and behavioural performance in class.

In the present study shows negative significant relationship between Premenstrual syndrome (PMS) and Academic performance. Findings says there is no correlation between academic performance and PMS and current study findings is similar to a study conducted by Hussein Shehadeh R N et.al [13] to evaluate the prevalence and association of premenstrual syndrome and premenstrual dysphoric disorder with academic performance among female university students. The study showed PMDD and PMS have a negative impact on female student's academic performance. High prevalence of PMS was linked to students' major specialisation, academic standing, and employment status.

In the current study, students were able to take class regularly, they were not taking frequent leaves, they were able to attend clinical postings and were able to study properly. Moreover, that students were able to score good marks in exams it shows that premenstrual syndrome has no impact on academic performance of physiotherapy students in Dakshin Kanada. But students were unable to concentrate in classes, they had difficulty to sit still for prolonged time and they also had trouble with writing exams.

Author was not able to find out a correlation between PMS and academic performance because of smaller sample size. Further study can be done on different population with larger sample size.

5 Conclusion

The study concludes the moderate prevalence of PMS is present among students and significant negative relationship between Premenstrual syndrome (PMS) and Academic performance among physiotherapy students in Moodbidri, Karnataka.

6 Conflict of interest

The author is not having any conflict.

7 Financial disclosures

None

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TABLES -**Table 1 Demographics**

Characteristics	Level	n	Percentage (%)	Mean ± SD
Gender	Female	89	89	(1.00 ±0.00)
Age	20	3	3.4	(22.01±1.050)
	21	26	29.2	
	22	36	40.4	
	23	18	20.2	
	24	4	4.5	
	25	1	1.1	
	26	1	1.1	
Engaged in clinical posting	Yes	74	83.1	(1.17± .376)
	No	15	16.9	
Educational qualification	UG	65	73.0	(1.31 ±.556)
	PG	20	22.5	
	Intern	4	4.5	

Table 2 PMSS-

Components	Frequency(n)	Percent (%)	Mean± SD
No symptoms	1	1.1	(3.01± .846)
Mild symptoms	26	29.2	
Moderate symptoms	35	39.3	
Severe symptoms	25	28.1	
Verysevere symptoms	2	2.2	

Table 3 Correlation between PMS and Academic performance using Self-administered Questionnaire-

Questions	Mean± SD	Spearman's coefficient value	p-value	Interface
1. Are you able to attend your regular classes or is it affected because of your PMS?	2.20±1.013	-.051	.636	Negligible negative significance

2. Are you taking frequent leave because of your PMS?	3.04±.928	-.199	.061	Negligible negative significance
3. Are you hesitating to attend clinical postings because of your PMS?	3.06± .981	-.315	.003	Moderate negative significance
4. Are you able to study and write your exams properly because of your PMS?	2.31± 1.018	.181	.090	Negligible positive significance
5. Are you able to concentrate in your classes because of your PMS?	2.33 ±.963	.083	.438	Negligible positive significance
6. Are you trying to give excuse to your teachers for not attending classes regularly and not doing academic work on time because of your PMS?	3.00± .905	-.315	.003	Moderate negative significance
7. Do you score less marks in exams because of your PMS?	3.18± .936	-.402	.000	Strong negative significance
8. Can you sit for prolonged time in classes because of your PMS?	2.71 ±1.014	.016	.879	Negligible positive significance
9. Are you feeling uncomfortable while treating patients because of your PMS?	2.82± .936	-.319	.002	Moderate negative significance
10. Are you hesitating to participate in college events because of your PMS?	2.60 ±1.030	-.416	.000	Strong negative significance
11. Are you able to study properly during your PMS duration?	2.49 ±1.001	-.024	.823	Negligible negative significance
12. Are you seeking for help from your classmates for any academic work during the PMS duration?	2.96 ±.940	-.259	.014	Weak negative significance

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