



A descriptive study: Determine premenstrual syndrome and associated adaptive coping behaviors among nursing and non-nursing students of a selected college, Odisha

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Abstract

Background: Premenstrual syndrome (PMS) is a common health concern among women of reproductive age and is particularly prevalent among college students, where it may adversely affect academic performance, emotional well-being, and daily functioning.

Methods: This descriptive study was conducted to determine the prevalence of premenstrual syndrome and associated adaptive coping behaviors among nursing and non-nursing students of selected colleges in Bhubaneswar, Odisha. A non-experimental descriptive research design was adopted, and 100 students were selected using a non-probability convenience sampling technique. Data were collected using a self-structured socio-demographic questionnaire, the Premenstrual Syndrome Rating Scale (PMSRS), and the Premenstrual Syndrome Coping Mechanism Rating Scale (PMS-CMRS). Descriptive and inferential statistics were used for data analysis.

Results: The findings revealed that the majority of both nursing and non-nursing students experienced moderate premenstrual syndrome, while severe PMS was observed in a smaller proportion, with a relatively higher occurrence among non-nursing students. Psychological symptoms were the most predominant, followed by behavioral and physical symptoms. Regarding adaptive coping behaviors, most students reported using coping strategies sometimes, with fewer students consistently practicing adaptive coping behaviors. Statistical analysis showed a significant association between marital status and PMS, while adaptive coping behavior was significantly associated with the type of students. Other selected demographic variables did not show a statistically significant association.

Conclusion: The study highlights the need for health education, counseling, and stress management interventions to improve adaptive coping behaviors and reduce the impact of PMS among college students.

Keywords: Premenstrual Syndrome, adaptive coping behaviour, nursing students, non-nursing students, menstrual health

Introduction

Premenstrual Syndrome is a significant women's health concern affecting a large proportion of reproductive-age women, particularly adolescents and young adults. The condition involves a recurring pattern of physical, emotional, and behavioral symptoms that occur before menstruation and subside with the onset of menstrual flow. Among college students, PMS can interfere with academic activities, attendance, concentration, and social interactions. Nursing and non-nursing students differ in their academic environments, stress exposure, and health awareness, which may influence both the experience of PMS and the coping behaviors adopted. Nursing students may have better knowledge of health practices but are exposed to higher levels of academic and clinical stress, whereas non-nursing students may experience different stressors and have varied coping mechanisms^[1].

Adaptive coping behaviors are essential in managing PMS effectively and minimizing its impact on daily life. Exploring the relationship between PMS and coping behaviors among nursing and non-nursing students can provide valuable insights into how educational background

and stress influence menstrual health. Therefore, the present descriptive study aims to determine the prevalence of premenstrual syndrome and associated adaptive coping behaviors among nursing and non-nursing students of a selected college. The findings of this study will help in planning appropriate counseling, stress management programs, and health education strategies to promote menstrual health and well-being among female college students^[2].

This study examined the effect of job-seeking stress on perimenstrual symptoms among female college students in health and non-health majors, and the mediating role of stress coping styles. Data were collected from 189 junior and senior students using standardized questionnaires and analyzed with descriptive statistics, correlation, regression, and mediation analysis. Job-seeking stress showed a significant positive association with perimenstrual symptoms among non-health major students. Passive coping styles fully mediated this relationship, with a significant Sobel test result. The findings indicate that job-seeking stress influences perimenstrual symptoms through passive coping in non-health students, highlighting the need for

major-specific stress coping strategies to manage perimenstrual symptoms^[3].

This cross-sectional study examined the influence of chronotype on sleep quality and health-related quality of life among Japanese nursing students. Using standardized questionnaires, data were collected from 241 students, the majority of whom were female. About one-third had an evening chronotype, over half had an intermediate type, and a small proportion had a morning type. More than half of the students reported poor sleep quality, with evening chronotype students showing the highest levels of sleep disturbance and unfavorable sleep patterns. However, health-related quality of life and mood did not differ by chronotype. The findings suggest that nursing students with an evening chronotype are particularly vulnerable to sleep problems and may benefit from early sleep-related interventions^[4].

The United States is facing a persistent nursing shortage due to an aging population, nurse retirements, and limited nursing school capacity. Improving nursing student success and graduation rates is one strategy nursing schools can use to address this issue. This three-manuscript paper focuses on an understudied group, veteran nursing students (VNS). Chapter 2 presents a concept analysis of overload and its impact on undergraduate nursing student success. Chapter 3 provides a scoping review of marginality and other barriers affecting VNS progression. Chapter 4 reports an original study comparing veteran and non-veteran nursing students on financial stress, marginality, and life satisfaction using survey data from 261 students^[5].

Mental health problems may emerge during the prenatal and postnatal periods as women undergo significant physical, psychological, and social changes. Postpartum depression is a major public health issue that can negatively affect maternal functioning and have serious implications for families. Approximately 10–20% of women experience depressive symptoms during pregnancy or within the first year after childbirth. Screening in clinical settings is commonly conducted using standardized questionnaires, and management typically involves psychotherapy and antidepressant medications. This review focuses on postpartum depression and the factors associated with its occurrence among women of reproductive age^[6].

Newly graduated nurses often enter the workforce without sufficient clinical experience or confidence to manage the increasingly complex and demanding healthcare environment. This qualitative study explored their transition into acute care and developed a theory describing a transformative journey through stages of doing, being, and knowing. Although the transition was non-linear, it involved progressive adaptation and professional growth. These findings highlight the need for nursing education and healthcare institutions to provide structured transition preparation, extended orientation, and mentoring programs to support new graduates^[7].

People with intellectual disabilities often experience poorer health outcomes and barriers to healthcare access, making nurses central to delivering person-centred care. This scoping review examined literature on intellectual disability nursing using seven academic databases and followed PRISMA-ScR guidelines. Findings from 68 studies highlight the significant contribution of intellectual

disability nurses across professional practice, supporting a biopsychosocial approach to health management, promotion, and education. However, limited evidence details the specific assessment and intervention strategies that reflect their specialist expertise, indicating a need for further research to better define and strengthen the visibility of this nursing role^[8].

Methodology

Study Design

This study adopted a non-experimental descriptive research design. It focuses on obtaining information regarding the activities, beliefs, preference and attitudes.

Study Setting

The study is conducted in different nursing colleges as Manjari Devi School & College of Nursing, Rasulgarh and Lord Jagannath Missions College of Nursing, Mancheswar and non nursing colleges are Rajadhani College, D. R College, Nayapalli, B.J.P College of Science & Education in Bhubaneswar, Odisha.

Sampling Method

In this study non-probability convenience sampling technique is used.

Sample size

A total of 100 students of symptoms of premenstrual syndrome were included in this study. The sample size was determined using Yamane's formula.

According to Yamane's formula

$$n = N / (1 + N e^2)$$

Here n = Sample size, N = Population size, e = Percentage of error i.e. 0.05

Inclusion Criteria

Students having at least five symptoms from the PMS diagnosis performa.

Students who are present at the time of data collection.

Students between the age group of 18- 26 years.

Students who understand English.

Exclusion Criteria

Students not having at least five symptoms according to the PMS diagnosis Performa.

Students who are absent in the college during the time of data collection.

Description of the tools

Data were collected using three tools:

Tool-1: Self-structured socio-demographic questionnaire the variables. The socio-demographic tool consisted of five items related to premenstrual symptoms (age, marital status, religion, age of menarche, family menstrual history).

Tool-2: The Premenstrual Syndrome Rating Scale (PMSRS) is a standardized self-report instrument designed to assess the presence, severity, and pattern of premenstrual symptoms experienced by women during the luteal phase of the menstrual cycle. The scale comprehensively evaluates physical, psychological, and behavioral symptoms associated with premenstrual syndrome. The total PMS score is obtained by summing the scores of all items. Based on the total score, the severity of PMS is categorized as

mild, moderate, or severe. Higher scores indicate greater severity of premenstrual symptoms. The PMSRS is easy to administer, requires approximately 10–15 minutes to complete, and is suitable for use among adolescent girls, college students, and adult women. The scale has demonstrated good reliability and validity in various populations, making it an appropriate tool for assessing premenstrual syndrome in clinical and research settings.

Scoring Interpretation: Mild PMS – Low total score, Moderate PMS – Moderate total score, Severe PMS – High total score

Tool-3: The Premenstrual Syndrome Coping Mechanism Rating Scale (PMS-CMRS) is a structured self-report instrument designed to assess the coping strategies adopted by women to manage premenstrual syndrome (PMS) symptoms. The scale evaluates both adaptive (positive) and maladaptive (negative) coping behaviours commonly used during the premenstrual phase of the menstrual cycle. Each item is rated on a Likert-type scale, usually ranging from 0 (never used) to 3 or 4 (always used), depending on the version of the scale. The total coping score is obtained by summing the responses to all items. The PMS-CMRS is administered, approximately 10–15 minutes to complete, and is suitable for adolescent girls, nursing students, college students, and reproductive-age women. The scale is widely used in descriptive and interventional studies to explore the relationship between PMS, stress, coping behaviour, and quality of life.

Scoring Interpretation: Poor coping – Low total score, Moderate coping – Moderate total score, Good coping – High total score

Tool validation

Content validity: Reviewed by 5 experts of department of nursing (1 medical professionalism, 4 nursing professionalism). The tools demonstrated strong reliability, with Cronbach’s α values of 0.75. Pre-testing (tryout) done in hospital for clarity, ambiguity, and timing.

Study variables

Demographic variables: age, marital status, family menstrual history, age of menarche, religion

Research variables: Premenstrual symptoms and adaptive coping behavior.

Data collection procedure

Prior to the data collection, to obtain formal permission from all the concerned principal of the nursing college, Bhubaneswar. The investigator introduced themselves to the subject & established a good rapport with them and explained about the purpose of study and its usefulness; they were assured about the confidentiality, of their responses. An informed consent obtained from the subjects indicating their willingness to participate in the study.

Ethical considerations

Ethical approval was obtained from the Sum Nursing College, Odisha, with approval dated 22.04.2017 (Ref. No.: SOADU/SNC/IRB/148/2017). Permissions were also secured from the medical superintendent, the head of the department, and relevant staff.

Statistical Analysis

SPSS version 21 was used for data analysis. Demographic information and baseline characteristics were summarized using descriptive statistics, including mean values, standard deviations, and frequency counts. The data will be collected and analyzed with descriptive and inferential statistical techniques. The demographic variables will be analyzed by using frequency and percentage. The frequency tables will be formulated for all significant information.

Theoretical framework

Lazarus and Folkman’s Stress and Coping Theory (1984): It is based on Lazarus and Folkman’s Transactional Model of Stress and Coping, which explains how individuals perceive stressors and adopt coping strategies to manage them.

According to this theory: Stress is a result of an individual’s interaction with the environment. Coping is a dynamic process influenced by personal and situational factors

The conceptual framework consists of three major components:

Input → Process → Outcome

1. Input (Independent Variables)

Demographic Variables

2. Process (Mediating Variable)

- Cognitive Appraisal
- Individual perception and interpretation of PMS symptoms
- Adaptive Coping Behaviors

Physiological coping (rest, exercise, diet)

Psychological coping (relaxation, positive thinking)

Behavioral coping (time management, distraction)

Social coping (seeking support from peers/family)

3. Outcome (Dependent Variable)

Level of adaptive coping behaviour. Ability to manage PMS symptoms effectively. Comparison of coping behaviors between nursing and non-nursing students

Results

Table 1: Distribution of subjects based on sociodemographic variables. (N =100)

Sl No.	Demographic Variables	Nursing		Non- Nursing	
		f	%	f	%
1	Age in years				
	a. 18- 20	18	18	43	43
	b. 21- 23	25	25	7	7
2	Marital Status				
	a. Married	8	8	-	-
	b. Unmarried	42	42	50	50
3	Religion				
	a. Hindu	48	48	50	50
	b. Muslim	-	-	-	-
4	Age of menarche				
	a. 10- 12 year	7	7	12	12
	b. 13- 15 year	35	35	31	31
5	Family menstrual history				
	a. Paternal side	2	2	3	3
	b. Maternal side	8	8	9	9
	c. None of these	40	40	38	38

The above table-1 revealed that Frequency (F) and percentage (%) distribution of patients according to age in years, marital status, religion, age of menarche, family menstrual history.

Table 2: Distribution of sample according to intensity of premenstrual syndrome among nursing and non-nursing students using frequency and percentage. (N=100)

Intensity of PMS	Nursing		Non- Nursing	
	F	%	f	%
Mild (1- 33.9)	-	-	-	-
Moderate (34- 66.9)	43	43	39	39
Severe (67- 100)	7	7	11	11

The data presented in table-2 revealed that the distribution of intensity of premenstrual syndrome (PMS) among nursing and non-nursing students revealed that none of the participants in either group experienced mild PMS. The majority of the respondents reported moderate PMS, with 43 (43%) nursing students and 39 (39%) non-nursing students falling under this category. Severe PMS was observed in a smaller proportion of students, affecting 7 (7%) nursing students and 11 (11%) non-nursing students. Overall, moderate PMS was the most commonly reported intensity in both groups, while severe PMS was comparatively higher among non-nursing students than nursing students.

Table 3: Distribution of subject according to adaptive coping behavior among nursing and non-nursing students using frequency and percentage. (N=100)

Adaptive coping behaviour	Nursing		Non- Nursing	
	f	%	f	%
Always (67- 100)	20	20	13	13
Sometimes (34- 66.9)	30	30	37	37
Rarely (0- 33.9)	-	-	-	-

The table reveals that the distribution of intensity of premenstrual syndrome (PMS) among nursing and non-nursing students revealed that none of the participants in either group experienced mild PMS. The majority of the respondents reported moderate PMS, with 43 (43%) nursing students and 39 (39%) non-nursing students falling under this category. Severe PMS was observed in a smaller proportion of students, affecting 7 (7%) nursing students and 11 (11%) non-nursing students. Overall, moderate PMS was the most commonly reported intensity in both groups, while severe PMS was comparatively higher among non-nursing students than nursing students.

Table- 4: Percentage of different aspects of PMS and rank order of different symptoms under various area. (N= 100)

Sl. No	Symptoms	Students			Rank
		Obtain Score	Total score	% of score	
1	Physical symptoms	2236	4000	55.9	3 rd
2	Psychological symptoms	2248		58.7	1 st
3	Behavioural symptoms	2291		57.27	2 nd

The table showed that the symptom-wise analysis of premenstrual syndrome among students showed variations in the obtained scores across different symptom domains. Psychological symptoms had the highest obtained score of

2248 out of 4000, accounting for 58.7%, and were ranked first, indicating that psychological manifestations were the most predominant among the students. This was followed by behavioral symptoms, which recorded an obtained score of 2291, contributing to 57.27%, and were ranked second. Physical symptoms had an obtained score of 2236, representing 55.9%, and were ranked third. Overall, psychological symptoms were the most prominent, followed by behavioral and physical symptoms among the students.

Table 5: Association of PMS and sociodemographic variables in the nursing and non-nursing students. (N= 100)

Sl No	Demographic data	Chi-Square	Df	P Value	Level of Significance
1	Age of the year	1.17	2	0.557	Non-significant
2	Marital status	6.03	1	0.014	Significant
3	Age of menarche	1.48	2	0.477	Non-significant
4	Religion	0.625	1	0.429	Non-significant
5	Family menstrual history	2.04	2	0.361	Non-significant
6	Students	1.08	1	0.299	Non-significant

Table-4 presents that the association between selected demographic variables and premenstrual syndrome was analyzed using the Chi-square test. The findings revealed that marital status showed a statistically significant association with PMS ($\chi^2 = 6.03$, $df = 1$, $p = 0.014$) at the 0.05 level of significance. However, no statistically significant association was found between PMS and other demographic variables such as age in years ($\chi^2 = 1.17$, $df = 2$, $p = 0.557$), age of menarche ($\chi^2 = 1.48$, $df = 2$, $p = 0.477$), religion ($\chi^2 = 0.625$, $df = 1$, $p = 0.429$), family menstrual history ($\chi^2 = 2.04$, $df = 2$, $p = 0.361$), and type of students ($\chi^2 = 1.08$, $df = 1$, $p = 0.299$). Thus, marital status was the only demographic variable found to be significantly associated with PMS among the students.

Table 6: Association of adaptive coping behaviour and sociodemographic variables in the nursing and non-nursing students. (N= 100)

Sl No	Demographic data	Chi-Square	Df	P Value	Level of Significance
1	Age of the year	3.79	2	0.150	Non-significant
2	Marital status	1.65	1	0.199	Non-significant
3	Age of menarche	1.50	2	0.472	Non-significant
4	Religion	1.00	1	0.317	Non-significant
5	Family menstrual history	2.04	2	0.361	Non-significant
6	Students	5.47	1	0.019	Significant

The association between selected demographic variables and premenstrual syndrome was analyzed using the chi-square test. The findings revealed that age of the year ($\chi^2 = 3.79$, $df = 2$, $p = 0.150$), marital status ($\chi^2 = 1.65$, $df = 1$, $p = 0.199$), age of menarche ($\chi^2 = 1.50$, $df = 2$, $p = 0.472$), religion ($\chi^2 = 1.00$, $df = 1$, $p = 0.317$), and family menstrual history ($\chi^2 = 2.04$, $df = 2$, $p = 0.361$) did not show any statistically significant association with premenstrual syndrome. However, a statistically significant association was observed with students ($\chi^2 = 5.47$, $df = 1$, $p = 0.019$) at the 0.05 level of significance.

Discussion

This study aimed to explore internationally educated nurses' (IENs) experiences with the registration process of the College of Nurses of Ontario (CNO) and its impact on their

health. Giorgi's (2009) descriptive phenomenological approach, grounded in Heideggerian phenomenology, was employed to capture the essence of this experience from a nursing perspective. The Population Health Promotion Model served as the theoretical framework to interpret health-related outcomes associated with the registration process. Participants provided written narratives, which were analyzed using Giorgi's six-step method. The findings enhance understanding of the registration experience of IENs in Ontario^[9].

This study synthesized dissertation research on faculty role stressors in nursing education and examined how work-related stress affects both educators and the teaching-learning process. Using a non-experimental integrative review design, 46 dissertations published between 1965 and 1985 were analyzed. The findings identified stressors unique to nurse educators' multiple roles, including clinical and classroom teaching, professional practice, and role expectations, as well as stressors common to other academic faculty such as research and institutional responsibilities. These results highlight important implications for nursing education and educational leadership and support the value of research synthesis in advancing knowledge and practice^[10].

Implications of the Study

The study both the nursing and non nursing students should spend sometimes in yoga, meditation and exercise. They should take balanced diet and should also use their coping behavior successfully to overcome the premenstrual problem. They should avoid the factors which deteriorate their condition.

Limitation

The study is limited on convenience sampling, sample size limited to 100, age group between 18- 26 years.

Conclusion

The outcome of the study can be concluded that the perceptions of PMS in nursing and non nursing students are due to deterioration in their physical, psychological and behavioural status. The students are facing various types of symptoms due to imbalanced adaptive coping behavior and maladjustment with environment. So, finding of the study may help to recognize the perceived symptoms and their association with other factor and may also help to reduce the PMS in both nursing and non nursing students.

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Conflicts of interest

There are no conflicts of interest for the writers.

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Ethics Approval

Ethical approval was obtained from the Sum Nursing College, Odisha, with approval dated 22.04.2017 (Ref. No.: SOADU/SNC/IRB/148/2017). Permissions were also secured from the medical superintendent, the head of the department, and relevant staff.

Data Availability

The data is available and can be accessed with a reasonable request.

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