*Original Article*

# Association between Premenstrual Syndrome and Job Performance among Nurses Working in Tertiary Care Hospitals Peshawar

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## ABSTRACT

**Background**: The relationship between premenstrual syndrome (PMS) and job performance is a subject of growing interest, particularly in high-stress environments like critical care nursing. Premenstrual syndrome (PMS) can significantly affect the well-being of individuals, with potential implications for their daily functioning. Critical care nurses, tasked with demanding responsibilities, operate in a high-pressure environment where job performance is of utmost importance. Understanding the potential association between PMS and the job performance of these nurses at tertiary care hospitals in Peshawar is essential to enhance both the nurses' working conditions and the quality of care they provide to patients.

**Objective**: The objective of the study was to find out the association between premenstrual syndrome and job performance among nurses working in tertiary care hospitals in Peshawar.

**Methods**: A correlational study was conducted to achieve the objective. A well-validated questionnaire tool and purposive sampling technique were employed. The total population for this study was 346 nurses from three tertiary care hospitals in Peshawar: 240 participants from Lady Reading Hospital (LRH), 58 from Khyber Teaching Hospital (KTH), and 48 from Hayatabad Medical Complex (HMC). The sample size was calculated using Rao soft software, resulting in a required sample size of 183. Accordingly, 127 participants were selected from LRH, 31 from KTH, and 25 from HMC. Data collection tools included demographic information, general knowledge, menstrual characteristics, symptoms during premenstrual syndrome (PMS), and job performance assessments. Data analysis involved calculating frequencies, percentages, means, and standard deviations using SPSS version 25.0. Pearson correlation tests were used to examine the association between PMS and job performance, with graphical representations for descriptive statistics. Ethical approval was obtained from relevant authorities, and the study adhered to the Declaration of Helsinki principles.

**Results**: The majority of participants were in the age range of 26 to 30 years (55.7%). There was a statistically significant negative correlation between PMS and job performance (r=0.298, p<0.01). The correlation analysis also showed a significant negative correlation between PMS and marital status (r=0.191, p=0.01). The sample consisted predominantly of nurses with post-RN qualifications (48.6%), and 60.1% were unmarried. The findings suggest that as PMS symptoms increase, job performance tends to decrease.

**Conclusion**: This study delved into the association between Premenstrual Syndrome (PMS) and job performance among critical care nurses, revealing a significant relationship between the two. The findings underscore the importance of recognizing the potential impact of PMS on the professional lives of critical care nurses and highlight the need for further attention and support in this regard. As healthcare institutions strive to optimize the well-being and productivity of their nursing staff, this study adds a crucial dimension to understanding the factors influencing job performance. Interventions and strategies can be tailored to address the challenges posed by PMS, ultimately fostering a more conducive work environment and enhancing the overall quality of patient care.

**Keywords**: Premenstrual Syndrome, PMS, Job Performance, Critical Care Nurses.

## INTRODUCTION

Premenstrual syndrome (PMS) is a prevalent gynecological condition characterized by an array of physical and behavioral symptoms that emerge in the luteal phase of the menstrual cycle and typically resolve with the onset of menstruation (1,2). These symptoms

can significantly impact various aspects of quality of life, including daily activities and academic or professional performance (3,4). Research indicates that nearly 90% of women experience some degree of PMS, with symptoms such as bloating, headaches, and mood fluctuations being common (5,6). More severe symptoms, often classified as premenstrual dysphoric disorder (PMDD), affect approximately 5-8% of women and can include pronounced emotional and physical distress, which can disrupt daily functioning (6). Despite its prevalence, PMS is often underdiagnosed and inadequately managed, particularly in professional settings where the cyclical nature of the symptoms may lead to inconsistent performance and increased absenteeism (7).

Critical care nurses, operating in high-pressure environments, are particularly susceptible to the detrimental effects of PMS on job performance. The high-stress nature of their work, combined with the physical and emotional demands of PMS, can impair their ability to perform essential tasks, potentially compromising patient care (8). Previous studies have highlighted the impact of PMS on academic performance among female students, noting that symptoms such as irritability, fatigue, and menstrual cramps can negatively affect concentration and engagement (9). However, there is a paucity of research examining the direct impact of PMS on job performance among healthcare professionals, particularly nurses.

The current study aims to fill this gap by investigating the association between PMS and job performance among critical care nurses in tertiary care hospitals in Peshawar. By exploring this relationship, we hope to provide valuable insights into how PMS affects the professional lives of nurses and to identify potential areas for intervention to improve their working conditions and overall well-being(10). Understanding the extent to which PMS influences job performance can inform the development of supportive policies and practices within healthcare institutions, ultimately enhancing the quality of care provided to patients (11).

Methodologically, this study employed a cross-sectional analytical design, with data collected from 183 nurses working in critical care units across three major tertiary care hospitals in Peshawar (12). The sample size was determined using Rao soft software, ensuring a representative sample with a 5% margin of error and a 95% confidence interval. Participants were selected through purposive sampling, focusing on reproductive-age nurses, while excluding those over 45 years old. Data collection tools included validated questionnaires that assessed demographic information, menstrual characteristics, PMS symptoms, and job performance metrics. Statistical analysis involved calculating frequencies, percentages, means, and standard deviations, with Pearson correlation tests used to examine the association between PMS and job performance (13).

The findings revealed a statistically significant negative correlation between PMS and job performance (r=0.298, p<0.01), indicating that as PMS symptoms increase, job performance tends to decrease. This result underscores the potential impact of PMS on the professional lives of critical care nurses and highlights the need for healthcare organizations to recognize and address this issue. By implementing supportive measures and accommodations, such as flexible work arrangements and stress management resources, healthcare institutions can help mitigate the adverse effects of PMS on job performance, thereby fostering a more supportive work environment for their nursing staff.

In conclusion, this study sheds light on the significant relationship between PMS and job performance among critical care nurses, an area that has been largely overlooked in previous research. The findings emphasize the importance of acknowledging PMS as a legitimate health concern that can affect professional performance and underscore the need for targeted interventions to support nurses experiencing PMS. By addressing this issue, healthcare institutions can enhance the well-being and productivity of their nursing staff, ultimately improving the quality of patient care (10).

## MATERIAL AND METHODS

The study was conducted in the critical care units of tertiary care hospitals in Peshawar from March to September 2023, employing a cross-sectional analytical design. The sample size, determined using Rao soft software with a 5% margin of error and a 95% confidence interval, comprised 183 nurses selected through purposive sampling. Inclusion criteria for participants included reproductive-age nurses working in critical care areas of public tertiary care hospitals, while exclusion criteria excluded nurses over 45 years old. Ethical approval was obtained from the respective ethical review boards of the involved hospitals, and the study adhered to the principles outlined in the Declaration of Helsinki. Participants provided informed consent prior to their inclusion in the study.

Data collection involved the use of a well-validated questionnaire designed to assess demographic information, general knowledge, menstrual characteristics, symptoms during premenstrual syndrome (PMS), and job performance. The questionnaire was distributed to participants during their shifts, ensuring minimal disruption to their work. Researchers provided assistance in completing the questionnaires to ensure clarity and accuracy in responses. Demographic data included age, marital status, educational background, and years of job experience. Menstrual characteristics were assessed through questions about the regularity, duration, and severity of menstrual cycles. Symptoms of PMS were evaluated using a standardized symptom checklist, while job performance was measured through a self-assessment scale validated for use in nursing populations.

Data analysis was conducted using SPSS version 25.0. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated to summarize the demographic and clinical characteristics of the participants. Pearson correlation tests were employed to examine the association between PMS and job performance, with significance levels set at p<0.05. Additionally, graphical representations of the data were generated to provide a visual overview of the findings.

The study revealed a statistically significant negative correlation between PMS and job performance (r=0.298, p<0.01), indicating that as PMS symptoms increased, job performance tended to decrease. This finding underscores the potential impact of PMS on the professional lives of critical care nurses, highlighting the need for healthcare organizations to implement supportive measures and accommodations. The analysis also showed significant correlations between PMS and various socio-demographic factors, providing a comprehensive understanding of how these variables interact to influence job performance.

In conclusion, the methodological rigor of this study, including its ethical considerations, robust data collection procedures, and thorough statistical analysis, ensured the reliability and validity of the findings. By addressing the association between PMS and job performance among critical care nurses, this research contributes valuable insights to the existing body of knowledge and underscores the importance of supporting nurses in managing PMS symptoms to enhance their job performance and overall well-being (14).

## RESULTS

The results of this study, investigating the association between premenstrual syndrome (PMS) and job performance among critical care nurses in tertiary care hospitals in Peshawar, are presented in both narrative and tabulated formats for clarity and comprehensiveness.

The study included 183 nurses from three major hospitals: Lady Reading Hospital (LRH), Khyber Teaching Hospital (KTH), and Hayatabad Medical Complex (HMC). The demographic characteristics of the participants are summarized in Table 1.

Table 1: Demographic Characteristics of Participants

| Characteristic | Frequency (n) | Percentage (%) |
|---|---|---|
| Age Group | | |
| 22-26 | 49 | 26.8 |
| 26-30 | 102 | 55.7 |
| 30-34 | 18 | 9.8 |
| 34-38 | 10 | 5.5 |
| 38-42 | 3 | 1.6 |
| 42-43 | 1 | 0.5 |
| Education | | |
| Diploma | 75 | 41.0 |
| Post-RN | 89 | 48.6 |
| BSN | 19 | 10.4 |
| Marital Status | | |
| Unmarried | 110 | 60.1 |
| Married | 71 | 38.8 |
| Divorced | 2 | 1.1 |
| Job Experience | | |
| <1 year | 2 | 1.1 |
| 1-5 years | 90 | 49.2 |
| 6-10 years | 40 | 21.9 |
| 11-15 years | 31 | 16.9 |
| 16-20 years | 18 | 9.8 |
| >20 years | 2 | 1.1 |

The majority of participants were aged 26-30 years (55.7%) and held post-RN qualifications (48.6%). A significant proportion of the nurses were unmarried (60.1%), and nearly half had job experience ranging from 1 to 5 years (49.2%).

The correlation analysis between PMS and job performance revealed a statistically significant negative correlation (r=0.298, p=0.000), indicating that increased PMS symptoms were associated with decreased job performance. Additionally, a weak but significant negative correlation was found between PMS and marital status (r=0.191, p=0.01).

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Table 2: Correlation Analysis

| Variables | PMS | Job Performance |
|---|---|---|
| PMS | 1 | 0.298** |
| Job Performance | 0.298** | 1 |
| Marital Status | 0.191** | - |

Note: p<0.01

The findings indicate that PMS significantly impacts job performance among critical care nurses. This is particularly important for healthcare institutions aiming to optimize the productivity and well-being of their staff. The study's results suggest the need for workplace interventions and supportive measures to help nurses manage PMS symptoms effectively, thereby maintaining high standards of patient care and job performance.

In summary, the study highlights the critical association between PMS and job performance, underscoring the importance of acknowledging and addressing PMS in professional settings to support the health and efficiency of critical care nurses.

## DISCUSSION

The findings of this study revealed a significant negative correlation between premenstrual syndrome (PMS) and job performance among critical care nurses, with increased PMS symptoms being associated with decreased job performance. This result aligns with previous research, which has indicated that PMS can adversely affect various aspects of daily life, including professional responsibilities (15). The study's sample predominantly comprised young, unmarried nurses with post-RN qualifications, reflecting a workforce demographic that might be particularly vulnerable to the impacts of PMS due to the high-stress environment of critical care nursing.

Previous studies have similarly highlighted the detrimental effects of PMS on academic and job performance. For instance, research conducted among female university students reported that PMS significantly disrupted academic activities, leading to reduced concentration and engagement (16). This study extends those findings to a professional healthcare setting, emphasizing that PMS symptoms can impair job performance in critical care nurses, potentially affecting patient care quality. Moreover, the significant correlation between PMS and job performance underscores the need for healthcare institutions to recognize PMS as a legitimate occupational health issue and to develop supportive strategies to mitigate its impact (17).

The study's strengths include its focus on a specific and high-stress professional group—critical care nurses—where job performance is crucial for patient outcomes. By using a well-validated questionnaire and robust statistical methods, the study provided reliable and actionable insights. However, the study also had limitations. The cross-sectional design limited the ability to infer causality between PMS and job performance. Additionally, the relatively small sample size and the specific setting of tertiary care hospitals in Peshawar may limit the generalizability of the findings to other regions or healthcare settings(18).

Despite these limitations, the study's findings have important implications for healthcare management. Recognizing the significant impact of PMS on job performance, healthcare organizations should consider implementing flexible work arrangements, providing access to stress management resources, and fostering an environment where nurses feel comfortable discussing their health issues without fear of stigma. Interventions such as regular exercise, dietary adjustments, and possibly medical treatments for severe PMS symptoms could be beneficial in managing the condition and maintaining job performance (19).

Future research should aim to explore the longitudinal effects of PMS on job performance and investigate potential interventions in more diverse and larger populations. Understanding the varying impacts of PMS across different professional settings could provide deeper insights into how best to support female employees. Furthermore, exploring the role of educational and psychological support in managing PMS could offer additional avenues for improving the well-being and productivity of affected individuals.

## CONCLUSION

In conclusion, this study contributed to the understanding of the relationship between PMS and job performance among critical care nurses, a topic that has been largely overlooked in existing research. By highlighting the significant correlation between these variables, the study underscored the necessity for targeted interventions to support nurses experiencing PMS. Addressing this issue is crucial not only for the well-being of the nurses but also for ensuring the high quality of patient care in critical healthcare settings. These findings pave the way for future research and intervention strategies aimed at improving the occupational health and performance of female healthcare professionals affected by PMS.

# REFERENCES

1. Abeje A, Berhanu Z. Premenstrual Syndrome and Factors Associated With It Among Secondary and Preparatory School Students in Debremarkos Town, North-West Ethiopia, 2016. BMC Research Notes. 2019;12(1):1-5.

2. Arslantaş H, Abacigil F, Çinakli Ş. Relationship Between Premenstrual Syndrome and Basic Personality Traits: A Cross-Sectional Study. Sao Paulo Medical Journal. 2018;136:339-345.

3. Gafarova S, Özarı Ç. Effects of Performance Appraisal System on the Job Effectiveness. Journal of Occupational Health Psychology. 2021;18(2):175-183.

4. Hardy C, Hunter MS. Premenstrual Symptoms and Work: Exploring Female Staff Experiences and Recommendations for Workplaces. International Journal of Environmental Research and Public Health. 2021;18(7):3647.

5. Iqbal H, Sayyar R. Questionnaire Based Study on Menstrual Pattern and Abnormalities in Women of Reproductive Age in Peshawar Khyber-Pakhtunkhwa Pakistan. International Journal of Social Science Archives. 2019;2(1):24-30.

6. Larson SB. Premenstrual Syndrome and Premenstrual Dysphoric Disorder. Advanced Health Assessment of Women: Skills, Procedures, and Management. 2023:396.

7. Mohamed AAA, Alanazi MS, Alsubhi RSM, Alshammari YA, Alshammari MS. Premenstrual Syndrome: Existence, Knowledge, and Attitude Among Female University Students in Hail. International Journal of Medicine in Developing Countries. 2022;6(9):1097-1101.

8. Rasheed P, Al-Sowielem LS. Prevalence and Predictors of Premenstrual Syndrome Among College-Aged Women in Saudi Arabia. Annals of Saudi Medicine. 2003;23(6):381-387.

9. Shehadeh JH, Hamdan-Mansour AM. Prevalence and Association of Premenstrual Syndrome and Premenstrual Dysphoric Disorder With Academic Performance Among Female University Students. Perspectives in Psychiatric Care. 2018;54(2):176-184.

10. Tempel R. PMS in the Workplace: An Occupational Health Nurse's Guide to Premenstrual Syndrome. AAOHN Journal. 2001;49(2):72-78.

11. Tsai SY. Effect of Yoga Exercise on Premenstrual Symptoms Among Female Employees in Taiwan. International Journal of Environmental Research and Public Health. 2016;13(7):721.

12. Ul Haq N, Gill S, Nasim A, Tahir M, Yasmin R, Batool F. Prevalence and Impact of Premenstrual Syndrome Among the Female Nursing Students of Quetta. Asian Journal of Nursing Education and Research. 2019;9(2):239-242.

13. Yokota J, Nohara M, Kamo T, Horiguchi F, Uchida K. Cross-Sectional Questionnaire Study on PMS/PMDD and Stress Factors in the Life of Female Medical Students. International Journal of Women's Health and Wellness. 2021;7(128):2474-1353.

14. Akın Ö, Erbil N. Investigation of coping behaviors and premenstrual syndrome among university students. Current Psychology. 2024 Jan;43(2):1685-95.

15. Ota Y, Nomura K, Hirayama J, Maeda E, Komatsu J, Nakamura M, Yamada R, Ishikawa H, Kobayashi T, Shirakawa H, Aisaka K. Relationship between somatic symptoms with menstruation and intention to leave work among university hospital nurses in Japan: a cross-sectional study. International Archives of Occupational and Environmental Health. 2023 Jan;96(1):155-66.

16. Dinh Trieu Ngo V, Bui LP, Hoang LB, Tran MT, Nguyen HV, Tran LM, Pham TT. Associated factors with Premenstrual syndrome and Premenstrual dysphoric disorder among female medical students: A cross-sectional study. Plos one. 2023 Jan 26;18(1):e0278702.

17. Erbil N, Yücesoy H. Premenstrual syndrome prevalence in Turkey: a systematic review and meta-analysis. Psychology, Health & Medicine. 2023 May 28;28(5):1347-57.

18. Jaholkowski P, Shadrin AA, Jangmo A, Frei E, Tesfaye M, Hindley GF, Haram M, Rahman Z, Athanasiu L, Bakken NR, Holen B. Associations between symptoms of premenstrual disorders and polygenic liability for major psychiatric disorders. JAMA psychiatry. 2023 Jul 1;80(7):738-42.

19. Taheri R, ZareMehrjardi F, Heidarzadeh-Esfahani N, Hughes JA, Reid RE, Borghei M, Ardekani FM, Shahraki HR. Dietary intake of micronutrients are predictor of premenstrual syndrome, a machine learning method. Clinical nutrition ESPEN. 2023 Jun 1;55:136-43.