



THE COVID-19 PANDEMIC AND WOMEN'S HEALTH: A STUDY OF MENTAL AND MENSTRUAL HEALTH IN OBG POST GRADUATE STUDENTS

Deepthi D^{1*}, Prabhakar Reddy E²

¹Assistant Professor of Obstetrics and Gynecology, Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry, India.

² Professor of Biochemistry, Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry, India.

ABSTRACT

Background: Mental health significantly influences menstrual health, particularly among female medical students facing academic stress. The COVID-19 pandemic further exacerbated psychological distress among healthcare professionals, potentially affecting their reproductive health. This study aims to assess the association between mental health and menstrual health among female obstetrics and gynecology (OBG) postgraduate students. **Methods:** A cross-sectional study was conducted among female OBG postgraduate students at Sri Lakshmi Narayana Medical College, Pondicherry, in January and February 2022. Data were collected through an online self-reported questionnaire using Google Forms, which included demographic details, menstrual cycle patterns, and the Depression, Anxiety, and Stress Scale (DASS). A total of 325 responses were analyzed using Microsoft Excel. The chi-square test was used to evaluate the association between mental health and menstrual health, with a p-value <0.05 considered statistically significant. **Results:** The study revealed that 80% of participants had regular menstrual cycles, while 20% experienced irregularities. Oligomenorrhea was reported by 70% of participants. Stress due to excessive workload was the primary concern (52.3%), followed by family issues (19%), childcare responsibilities (9%), exam stress (7%), and fear of COVID-19 (6%). A significant correlation was observed between psychological distress and menstrual irregularities ($p < 0.05$), indicating that mental health plays a crucial role in reproductive well-being. **Conclusion:** The findings highlight a strong association between mental health and menstrual health among female OBG postgraduate students. Addressing psychological distress through institutional support, stress management programs, and counseling services could improve both mental well-being and reproductive health outcomes. Further longitudinal studies are required to explore the long-term effects of stress on menstrual health.

Keywords :- Mental health, Menstrual health, Stress, Oligomenorrhea, Postgraduate students, COVID-19.

Access this article online

Home Page:
www.mcmed.us/journal/abs

Quick Response code



Received:25.03.2022

Revised:12.04.2022

Accepted:15.04.2022

INTRODUCTION

Menstrual health is an essential aspect of reproductive well-being and is influenced by multiple physiological and psychological factors. Stress and anxiety have been widely recognized as contributors to menstrual irregularities, as they can disrupt the hypothalamic-pituitary-ovarian (HPO) axis, leading to alterations in menstrual cycle patterns [1]. The COVID-

19 pandemic significantly impacted mental health worldwide, particularly among healthcare professionals who faced increased workload, uncertainty, and emotional distress [2].

Female postgraduate students in obstetrics and gynecology (OBG) experience substantial academic and clinical demands, which may contribute to heightened

Corresponding Author: **Dr. Deepthi D.** Email: drpebyreddy@gmail.com

stress levels and subsequent menstrual disturbances. Studies have reported that medical students and residents frequently experience high levels of psychological stress due to rigorous training schedules, long working hours, and academic pressures [3-4]. Given the increased burden during the COVID-19 pandemic, assessing the impact of stress on menstrual health among this population is critical [5].

Previous studies have suggested a strong association between psychological distress and menstrual irregularities, particularly among medical students and healthcare workers [6, 7]. However, limited research has focused on OBG postgraduate students, a group uniquely positioned at the intersection of clinical training and reproductive health awareness. Understanding the interplay between mental health and menstrual health among this cohort could provide valuable insights into potential interventions to mitigate stress-related menstrual disturbances [8-9].

This study aims to assess the relationship between mental health and menstrual health among female OBG postgraduate students during the COVID-19 pandemic. By analyzing menstrual patterns, stress levels, and associated factors, the research seeks to provide evidence for the need for targeted interventions and support systems to improve both mental well-being and reproductive health outcomes among this vulnerable population [10-11].

MATERIALS AND METHODS

Study Type and Setting

This study was a cross-sectional study conducted on female OBG postgraduate students at Sri Lakshmi Narayana Medical College in Pondicherry. It was carried out in January and February 2022. The study was conducted online to prevent physical contact and uphold social distancing norms.

Sample Size Calculation

The sample size was determined based on an estimated response rate and prevalence of stress-related menstrual health issues. A total of 350 doctors were invited to participate, and 325 valid responses were received. The final sample size was considered adequate for statistical analysis.

Participants and Recruitment Process

The study included female OBG postgraduate students who were willing to participate. Participants were recruited through an online invitation distributed via email, WhatsApp, and Facebook. They were encouraged to share the questionnaire with their peers. Physicians with a history of severe physical or mental illness were excluded from the study. Informed consent was obtained before participation.

Tools Used in the Study

Google Forms was used to create the questionnaire, which included demographic details (age, gender, marital status), menstrual cycle patterns, and the Depression, Anxiety, and Stress Scale (DASS). The questionnaire was designed for self-reporting to ensure ease of data collection and confidentiality.

Data Collection

Google Forms was used for data collection, and responses were directly recorded in a Microsoft Excel spreadsheet. To prevent duplicate submissions, respondents were allowed to submit only once. Several factors, including high email traffic for surveys and workload from COVID-19 duties, may have influenced the response rate.

Statistical Analysis

Descriptive statistics were used to analyze prevalence and quantitative variables. The chi-square test was applied to assess the relationship between mental health and menstrual health. A p-value of less than 0.05 was considered statistically significant. Data analysis was conducted using Microsoft Excel.

Ethics for the Study

The study was approved by the institutional ethics committee of Sri Lakshmi Narayana Medical College. Participation was voluntary, and informed consent was obtained from all respondents. Confidentiality and anonymity of the participants were maintained throughout the study.

RESULTS

Among the participants, 44% were aged between 25-30 years, 34% were between 31-35 years, and 22% were between 36-45 years. Additionally, 55% of the participants were married. The distribution of postgraduate years among the respondents was as follows: 57% were in their third year, 23% in their second year, and 12.5% in their first year.

We observed that 80% of respondents had regular menstrual cycles, while 20% experienced irregularities. Among them, 70% had oligomenorrhea, 23% had a normal frequency of periods, and 5% had polymenorrhea.

Among the participants, 52.3% reported mental disturbance due to excessive workload, 19% experienced depression due to family issues, 9% were stressed due to childcare responsibilities, 7% had exam-related stress, and 6% reported stress from the fear of COVID-19 and other health concerns. A mental health measure was used to analyze the distribution of stress.

There was a significant correlation between mental health and menstrual health, including severity of bleeding and

menstrual irregularities ($P < 0.05$).

Table 1: Age-wise Distribution

Age Group	Percentage (n)
25-30	44% (143)
31-35	34% (112)
36-45	22% (70)

Table 2: Menstrual Health.

Menstrual Cycle	Percentage
Regular	80%
Irregular	20%

Menstrual Flow Characteristics:

Flow Type	Percentage
Scanty flow (<2 days)	29%
Excessive flow (>7 days)	21%
Normal	50%

Menstrual Frequency:

Frequency Type	Percentage
Polymenorrhea (Frequent)	5%
Normal	23%
Oligomenorrhea (Infrequent)	70%

Table 3: Association Between Mental and Menstrual Health During COVID-19.

Menstrual Health Factor	Never	Almost Never	Sometimes	Fairly Often	Very Often	P-value
Dysmenorrhea	8	6	9	9	4	0.019
Past Medical History	11	3	17	14	13	
Menstrual Irregularity	4	6	31	13	6	
Excessive Flow (>7 days)	4	4	12	4	5	
Cause of Stress						
Excess Workload	16	22	36	32	17	0.003
Family Issues	6	19	22	7	5	
Fear of COVID-19	3	2	19	14	12	
Exam Stress	7	4	16	11	8	

DISCUSSION

The present study aimed to assess the relationship between mental health and menstrual health among female OBG postgraduate students during the COVID-19 pandemic. The findings revealed that a significant proportion of participants experienced stress, anxiety, and depression, which were associated with menstrual irregularities. This highlights the potential impact of psychological distress on reproductive health [1].

A notable finding was that 80% of respondents reported having regular menstrual cycles, while 20% experienced irregularities. Additionally, 70% of participants reported oligomenorrhea, indicating a high prevalence of infrequent menstrual cycles. Previous

research has suggested that stress and anxiety can disrupt the hypothalamic-pituitary-ovarian axis, leading to menstrual irregularities [2]. This aligns with our findings, as a significant association was observed between mental health disturbances and menstrual cycle patterns [6, 3]. Our results are consistent with previous studies conducted on medical students and healthcare professionals, which also reported a high prevalence of menstrual disturbances linked to psychological stress. A study by Sharma et al. (2021) on medical students found that nearly 65% of participants experienced menstrual irregularities due to academic stress, similar to our finding of 70% reporting oligomenorrhea [11]. Another study by Gupta et al. (2020) indicated that healthcare professionals working during the pandemic exhibited

higher stress levels, leading to increased menstrual irregularities [10]. This further supports our hypothesis that mental health plays a crucial role in reproductive health [7].

The study also found that excessive workload was a primary source of stress, affecting 52.3% of participants. Other contributing factors included family issues (19%), childcare responsibilities (9%), exam stress (7%), and fear of COVID-19 (6%). These stressors likely contributed to both psychological distress and menstrual disturbances. Similar studies have reported that healthcare professionals, particularly postgraduate students, experience high levels of stress due to their rigorous training schedules and workload, further exacerbated by the pandemic. For instance, a study by Al-Rubaye et al. (2021) found that over 50% of female medical residents reported menstrual cycle irregularities due to workplace stress [12]. Similarly, studies by Brown et al. (2020) and Singh et al. (2019) have shown that academic pressures and clinical workload contribute significantly to menstrual disturbances among healthcare trainees [13-14].

The significant correlation between mental health and menstrual health observed in our study underscores the need for targeted interventions. Strategies such as stress management programs, psychological counseling, and work-life balance initiatives should be considered to mitigate the adverse effects of stress on menstrual health. Previous studies have also recommended mindfulness-based stress reduction techniques and institutional support to help

alleviate stress among medical students and professionals [15-16]. Furthermore, the introduction of mental health screenings and support groups in academic settings has been suggested as an effective measure to address both psychological and menstrual health concerns [17-18]. Universities and medical institutions should consider implementing structured wellness programs tailored to the needs of female postgraduate students to help them manage stress more effectively and prevent long-term reproductive health consequences [19-22].

Despite its strengths, this study has certain limitations. The cross-sectional design limits the ability to establish causality between stress and menstrual disturbances. Additionally, self-reported data may be subject to recall bias. Future longitudinal studies with larger sample sizes and objective physiological measurements could provide more comprehensive insights into the relationship between mental health and menstrual health.

CONCLUSION

Our study highlights the intricate link between mental health and menstrual health among female OBG postgraduate students. Addressing psychological distress through institutional support and mental health interventions may help improve overall well-being and reproductive health outcomes. Our findings align with previous studies, reinforcing the need for stress management strategies among healthcare professionals to ensure both mental and reproductive health stability.

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Cite this article

Deepthi D1, Prabhakar Reddy E. (2022). The Covid-19 Pandemic and Women's Health: a Study of Mental and Menstrual Health in OBG Post Graduate Students. *Acta Biomedica Scientia*. 9(2), 126-130



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