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Evaluating Psycho-Emotional Disturbances and Menstrual Irregularities in Urban Women: A Descriptive Study

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Abstract

Background: Menstrual health and psycho-emotional well-being are important aspects of women's reproductive health. Despite advancements in healthcare, menstrual irregularities and associated mood disturbances remain prevalent, particularly in urban areas where stress, sedentary lifestyles, and dietary habits contribute to hormonal imbalances. This study explores the interplay between psycho-emotional disturbances and menstrual irregularities among urban women.

Objectives: The study's main objectives were to assess psycho-emotional disturbances, menstrual irregularities, their correlation, and associations with demographic variables among women of reproductive age.

Materials and Methods: A quantitative, non-experimental descriptive study was conducted on 70 women aged 18–45 in Chennai. Participants were selected using non-probability convenience sampling. Data were collected using a sociodemographic questionnaire, the Mood and Feelings Scale, and a Menstrual Irregularities Questionnaire. Statistical analysis included descriptive statistics, Pearson's correlation, and chi-square tests.

Results: Moderate mood disturbances (57.1%) and moderate menstrual irregularities (42.9%) were most common among women in reproductive age. A moderate positive correlation ($r = 0.58$), ($p < 0.05$) was observed between psycho-emotional disturbances and menstrual irregularities. Significant associations were found between age and both psycho-emotional disturbances ($p = 0.037$) and menstrual irregularities ($p = 0.033$).

Conclusion: Psycho-emotional disturbances and menstrual irregularities are significantly interrelated among urban women. Targeted interventions, including mental health education, lifestyle modifications, and stress management, are essential to improve women's overall well-being and productivity.

Keywords: Menstrual irregularities, Psycho-emotional disturbances, Urban women, Mental health, Reproductive health

Introduction:

Menstrual and psycho-emotional well-being are fundamental components of women's reproductive health [1]. Despite advancements in healthcare systems, menstrual irregularities and associated mood disturbances remain prevalent, often affecting the quality of life, productivity, and social interactions of women of reproductive age [2]. The World Health Organization (WHO) emphasises addressing menstrual health as a global public health priority. According to recent research, approximately 5% to 35.6% of women globally experience menstrual irregularities, with variations based on geographic location, socio-economic factors, and lifestyle practices [3].

In urban areas, stress, sedentary lifestyles, and dietary habits are particularly pronounced, contributing to hormonal imbalances that influence menstrual patterns [4]. Studies reveal that 30- 40% of urban women report premenstrual syndrome (PMS), characterised by mood swings, irritability, and depressive symptoms, while 3-8% suffer from severe premenstrual dysphoric disorder (PMDD). This condition significantly impairs daily functioning [5]. Urbanisation and its associated stressors amplify these challenges, with reports indicating a higher prevalence of menstrual disorders such as oligomenorrhea, amenorrhea, and menorrhagia among women in cities [6]. Research further highlights the bidirectional relationship between psycho-emotional health and menstrual irregularities [7]. Hormonal fluctuations during the menstrual cycle, particularly changes in estrogen and progesterone levels, play a significant role in mood regulation [[8]. Conversely, chronic psychological stress, anxiety, and depression can disrupt the hypothalamic-pituitary-ovarian (HPO) axis, leading to irregular menstrual cycles [9]. A study indicated that 32% of women with menstrual irregularities also reported clinically significant anxiety levels, while 27% experienced moderate to severe depressive symptoms [10].

Despite the growing recognition of this issue, there is a paucity of community-based studies in urban settings that comprehensively examine the interplay between psycho-emotional disturbances and menstrual health. The urban environment, characterized by high levels of occupational stress, exposure to pollutants, and shifts in cultural norms, uniquely influences women's health outcomes. Reports from India shows that 18-20% of women in urban areas experience primary or secondary amenorrhea, and up to 70% face PMS symptoms [11]. These statistics underscore the urgency of localized, context-specific research to address the healthcare needs of urban women.

This study aimed to assess the psycho-emotional mood variations and menstrual irregularities among women of reproductive age in a selected urban area. The findings are expected to contribute to improved screening, awareness, and intervention strategies tailored to the needs of urban women.

Materials and Methods:

This study used a quantitative research approach and a non-experimental descriptive design to investigate psycho-emotional disturbances and menstrual irregularities among women of reproductive age living in an urban area, Chennai. The study was conducted over four weeks, focusing on women who were residents of the area and met specific inclusion criteria. Women willing to participate and able to understand Tamil or English were included. At the same time, those with chronic health conditions, pregnancy, psychiatric disorders, pelvic inflammatory diseases, or those who were lactating were excluded. A non-probability

convenience sampling technique was employed to select available and willing participants during the study period.

Sample Size Calculation:

The sample size was determined based on findings from a previous study by Sharma et al., 2022, which investigated menstrual irregularities among women [12]. In their study, the prevalence of menstrual irregularities was 30%. Using a 95% confidence level and a relative precision of 11%, the sample size was calculated using the following formula:

$$N = \frac{Z^2 \times P(1-P)}{E^2}$$

where Z = 1.96 (standard deviation for a 95% confidence level), P = 30% (proportion of menstrual irregularities), and E = 11% (relative precision). To account for a 10% non-response rate, the sample size was rounded to 70 participants.

Data were collected using a Sociodemographic questionnaire, the Mood and Feelings Scale short version, and a Menstrual Irregularities Questionnaire. Data was collected through face-to-face interviews, each lasting 10–15 minutes.

Ethical Consideration:

Ethical clearance was obtained from the Institutional Ethical Committee, Madras Medical College, Chennai (No. IEC-MMC/Approval/54042024), and informed consent was secured from participants after explaining the study's purpose and ensuring confidentiality. The data were coded in MS Excel and analysed using IBM SPSS Statistics (version 28).

Data analysis:

Descriptive statistics summarised the socio-demographic characteristics and prevalence of psycho-emotional and menstrual health disturbances, including frequencies and percentages. Inferential statistics were applied to explore relationships between variables. Chi-square tests analysed associations between socio-demographic factors and menstrual irregularities, while Pearson's correlation coefficient evaluated the relationship between psycho-emotional disturbances and menstrual health. Statistical significance was set at $p < 0.05$; all tests were two-tailed.

Results:

Demographic Characteristics

The mean age of the participants was 30.7 ± 7.79 years. Regarding educational qualifications, most participants completed higher secondary education (28.6%), followed by primary education (21.4%), graduates (21.4%), informal education (14.3%), and professionals (14.3%). Marital status revealed that 54.3% were married, 31.4% were single, and the remaining 14.2% were divorced (7.1%) or widowed (7.1%). Regarding occupation, 35.7% were employed, while students, homemakers, and unemployed women each accounted for 21.4%. Religiously, 50% of participants were Hindu, 28.6% were Muslim, 14.3% were Christian, and 7.1% belonged to other faiths.

Psycho-emotional disturbances

The level of psycho-emotional disturbances, as measured by the Mood and Feelings Scale, indicated that 14.3% of participants had low or no mood disturbance, 57.1% experienced moderate mood disturbance,

and 28.6% reported high mood disturbance (Table 1). The mean score for the Psycho-emotional disturbances was 13.86 (SD = 5.62), suggesting that moderate mood disturbances were prevalent among most participants.

Table 1: Level of Psycho-emotional Disturbances

S. No	INTERPRETATION	FREQUENCY	PERCENTAGE
1.	Low or no mood disturbance	10	14.3%
2.	Moderate mood disturbance	40	57.1%
3.	High mood disturbance	20	28.6%

Menstrual Irregularities:

The Menstrual Irregularities Questionnaire revealed that 21.4% of participants had normal menstrual patterns, 28.6% experienced mild irregularities, 42.9% had moderate irregularities, and 7.1% reported severe irregularities (Table 2). The mean score for menstrual irregularities was 18.57 (SD = 7.64), with a substantial proportion of participants reporting moderate irregularities, indicating significant disruption in menstrual health.

Table 2: Level of Menstrual Irregularities

S.No.	INTERPRETATION	NUMBER OF PARTICIPANTS	PERCENTAGE
1.	Normal	15	21.4%
2.	Mild Irregularities	20	28.6%
3.	Moderate Irregularities	30	42.9%
4.	Severe Irregularities	5	7.1%

Correlation Between Psycho-emotional disturbances and Menstrual Irregularities

The Pearson correlation coefficient (r = 0.58) indicated a moderate positive correlation between Psycho-emotional disturbances and menstrual irregularities. Higher Psycho-emotional disturbance scores were associated with increased menstrual irregularity scores, suggesting a significant link between psycho-emotional factors and menstrual health disturbances.

Association of Psycho-emotional Disturbances with Demographic Variables

Chi-square analysis revealed a significant association between the Psycho-emotional disturbances and age (p = 0.037). Women aged 18–24 years predominantly experienced moderate mood disturbances (75%), while women aged 39–45 years showed a higher prevalence of high mood disturbances (40%). No significant associations were found between psycho-socio-demographic profile scores and other demographic variables such as education, marital status, occupation, or religion.

Association of Menstrual Irregularities with Demographic Variables

Age was significantly associated with menstrual irregularities (p = 0.033). Women aged 32–38 years and 39–45 years reported higher levels of moderate irregularities (47.1% and 53.3%, respectively), while severe irregularities were more common among women aged 18–24 years (5%). No significant

associations were observed between menstrual irregularities and other demographic variables such as education, marital status, occupation, or religion.

Discussion:

This study aimed to assess psycho-emotional disturbances and menstrual irregularities and their correlation with women living in an urban area.

Psycho-emotional disturbances

Most participants experienced moderate mood disturbances (57.1%), while 28.6% reported high mood disturbances. These findings are consistent with the study by Sundari T et al. (2022), which found that mood changes were prevalent among 70% of adolescent girls during menstruation [13]. Similarly, Chauhan S et al. (2021) highlighted that psychological factors like anxiety and stress contribute to menstrual disorders among adolescent girls [14]. These results suggest that psychosocial stressors, such as urban lifestyle challenges and socio-economic conditions, play an essential role in emotional well-being, highlighting the need for mental health education and support programs for urban women.

Menstrual Irregularities

Menstrual irregularities were prominent, with 42.9% of women experiencing moderate irregularities, 28.6% reporting mild irregularities, and 7.1% facing severe irregularities. These findings align with Shim J et al., (2024), who found that lifestyle and occupational factors, such as shift work and obesity, were significant predictors of menstrual irregularities among female workers in Korea [15]. Additionally, Mittiku et al. (2022) reported that 33.4% of Ethiopian college students experienced menstrual irregularities, with perceived stress and lifestyle factors like insufficient sleep contributing significantly [16]. These parallels emphasise the impact of modifiable factors, including weight management, stress reduction, and sleep hygiene, on menstrual health.

Correlation Between Psycho-Social Factors and Menstrual Irregularities

A moderate positive correlation ($r = 0.58$) was observed between Psycho-emotional disturbances and menstrual irregularities, indicating that higher mood disturbances were associated with more significant menstrual irregularities. This is supported by Sonowal et al. (2021), who found that psychosocial and sociodemographic factors influenced menstrual hygiene practices in urban slum populations [17]. Similarly, Jha et al. (2024) reported that improper sleep patterns, high-stress levels, and low maternal education were significant risk factors for abnormal menstrual cycles in adolescent girls in urban India [18]. These findings underscore the bidirectional relationship between psychosocial health and menstrual disorders, highlighting the need for holistic approaches to improving mental and reproductive health.

Association with Demographic Variables

The study found significant associations between age and both Psycho-emotional disturbances ($p=0.037p = 0.037$) and menstrual irregularities ($p=0.033p = 0.033$). These results are consistent with Jha et al. (2024), who identified age-specific vulnerabilities to menstrual disorders. Kwak et al. (2019) also found that educational attainment and income levels were linked to irregular menstruation in South Korean women, suggesting that socioeconomic factors significantly influence menstrual health [19].

Conclusion:

Psycho-emotional disturbances and menstrual irregularities are prevalent among urban women, with significant correlations between mood disturbances and menstrual health. Moderate mood disturbances and irregularities were most common, highlighting the impact of psychosocial factors like age and stress. Targeted interventions, including mental health education, lifestyle modifications, and stress management, are crucial for improving reproductive and emotional health. Addressing these issues can enhance overall well-being and productivity, particularly in urban settings where such challenges are amplified by lifestyle and socio-economic stressors.

Reference:

1. Hennegan J, Winkler IT, Bobel C, Keiser D, Hampton J, Larsson G, Chandra-Mouli V, Plesons M, Mahon T. Menstrual health: a definition for policy, practice, and research. Sexual and reproductive health matters. 2021 Jan 1;29(1):31-8. DOI: https://doi.org/10.1080/26410397.2021.1911618
2. Laksham KB, Selvaraj R, Kar SS. Menstrual disorders and quality of life of women in an urban area of Puducherry: A community-based cross-sectional study. Journal of family medicine and primary care. 2019 Jan 1;8(1):137-40. DOI: https://doi.org/10.4103/jfmpc.jfmpc_209_18
3. Attia GM, Alharbi OA, Aljohani RM. The Impact of Irregular Menstruation on Health: A Review of the Literature. Cureus. 2023 Nov;15(11). DOI: https://doi.org/10.7759/cureus.49146
4. Dhar S, Mondal KK, Bhattacharjee P. Influence of lifestyle factors with the outcome of menstrual disorders among adolescents and young women in West Bengal, India. Scientific Reports. 2023 Aug 1;13(1):12476. DOI: https://doi.org/10.1038/s41598-023-35858-2
5. Liguori F, Saraiello E, Calella P. Premenstrual syndrome and premenstrual dysphoric disorder's impact on quality of life, and the role of physical activity. Medicina. 2023 Nov 20;59(11):2044. DOI: https://doi.org/10.3390/medicina59112044
6. Rafique N, Al-Sheikh MH. Prevalence of menstrual problems and their association with psychological stress in young female students studying health sciences. Saudi medical journal. 2018 Jan;39(1):67. DOI: https://doi.org/10.15537/smj.2018.1.21438
7. Maurya P, Meher T, Muhammad T. Relationship between depressive symptoms and self-reported menstrual irregularities during adolescence: evidence from UDAYA, 2016. BMC Public Health. 2022 Apr 14;22(1):758. DOI: https://doi.org/10.1186/s12889-022-13196-8
8. Kundakovic M, Rocks D. Sex hormone fluctuation and increased female risk for depression and anxiety disorders: from clinical evidence to molecular mechanisms. Frontiers in neuroendocrinology. 2022 Jul 1;66:101010. DOI: https://doi.org/10.1016/j.yfrne.2022.101010
9. Padda J, Khalid K, Hitawala G, Batra N, Pokhriyal S, Mohan A, Zubair U, Cooper AC, Jean-Charles G. Depression and its effect on the menstrual cycle. Cureus. 2021 Jul;13(7). DOI: https://doi.org/10.7759/cureus.16532
10. Handy AB, Greenfield SF, Yonkers KA, Payne LA. Psychiatric symptoms across the menstrual cycle in adult women: a comprehensive review. Harvard review of psychiatry. 2022 Mar 1;30(2):100-17. DOI: https://doi.org/10.1097/HRP.0000000000000329
11. Dutta A, Sharma A. Prevalence of premenstrual syndrome and premenstrual dysphoric disorder in India: A systematic review and meta-analysis. Health promotion perspectives. 2021;11(2):161. DOI: https://doi.org/10.34172/hpp.2021.20

12. Sharma P, Kaur M, Kumar S, Khetarpal P. A cross-sectional study on prevalence of menstrual problems, lifestyle, mental health, and PCOS awareness among rural and urban population of Punjab, India. Journal of Psychosomatic Obstetrics & Gynecology. 2022 Jul 3;43(3):349-58. DOI: https://doi.org/10.1080/0167482X.2021.1965983
13. Sundari T, George AJ, Sinu E. Psychosocial problems of adolescent girls during menstruation. Journal of mental health education. 2022 Apr;3(2):47.
14. Chauhan S, Kumar P, Patel R, Srivastava S, Simon DJ, Muhammad T. Association of lifestyle factors with menstrual problems and its treatment-seeking behavior among adolescent girls. Clinical Epidemiology and Global Health. 2021 Oct 1;12:100905. DOI: https://doi.org/10.1016/j.cegh.2021.100905
15. Shim J, Han S, Baek J. Factors influencing menstrual regularity among female workers: a cross-sectional analysis study. BMC Women's Health. 2024 May 20;24(1):299. DOI: https://doi.org/10.1186/s12905-024-03142-8
16. Mittiku YM, Mekonen H, Wogie G, Tizazu MA, Wake GE. Menstrual irregularity and its associated factors among college students in Ethiopia, 2021. Frontiers in Global Women's Health. 2022 Aug 23;3:917643. DOI: https://doi.org/10.3389/fgwh.2022.917643
17. Sonowal P, Talukdar K, Saikia H. Sociodemographic factors and their association with menstrual hygiene practices among adolescent girls in Urban slums of Dibrugarh town, Assam. Journal of Family Medicine and Primary Care. 2021 Dec 1;10(12):4446-51. DOI: https://doi.org/10.4103/jfmpc.jfmpc_703_21
18. Jha N, Bhadoria AS, Bahurupi Y, Gawande K, Jain B, Chaturvedi J, Kishore S. Psychosocial and stress-related risk factors for abnormal menstrual cycle pattern among adolescent girls: A case-control study. Journal of Education and Health Promotion. 2020 Jan 1;9(1):313. DOI: https://doi.org/10.4103/jehp.jehp_419_20
19. Kwak Y, Kim Y, Baek KA. Prevalence of irregular menstruation according to socioeconomic status: A population-based nationwide cross-sectional study. PloS one. 2019 Mar 19;14(3):e0214071. DOI: https://doi.org/10.1371/journal.pone.0214071