ORIGINAL ARTICLE

Psychological Morbidity and Quality of Life in Women with Abnormal Uterine Bleeding

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ABSTRACT

Background: Abnormal uterine bleeding (AUB) is a common gynaecological condition that adversely affects women's physical health, emotional stability, and social functioning. Chronic or excessive menstrual bleeding can result in anaemia, fatigue, and reduced daily productivity. These persistent symptoms often predispose affected women to psychological morbidity, particularly depression and anxiety, which further compromise overall health-related quality of life.

Objectives: To determine the frequency of depression and anxiety among women with abnormal uterine bleeding and to evaluate the association between psychological morbidity and impairment in quality of life.

Methodology: This cross-sectional study was conducted in the gynaecology department of a tertiary care hospital. A total of 100 women aged 18–50 years diagnosed with abnormal uterine bleeding were enrolled using non-probability consecutive sampling. Women with pre-existing psychiatric disorders or chronic systemic illnesses were excluded. Depression and anxiety were assessed using validated screening scales, while quality of life was evaluated using a standardised health-related quality-of-life questionnaire. Sociodemographic and clinical characteristics were recorded. Statistical analysis was performed using SPSS version 24.0, applying chi-square and independent t-tests, with a p-value < 0.05 considered statistically significant.

Results: The mean age of participants was 38.6 ± 7.9 years. Depression was observed in 46% of women, while 39% exhibited clinically significant anxiety. Depression was significantly associated with longer bleeding duration and lower hemoglobin levels (p = 0.002). Anxiety was more prevalent among women with heavy menstrual bleeding and cycle irregularity (p = 0.01). Quality-of-life scores were significantly lower in women with depression compared to those without (42.3 ± 9.6 vs. 58.7 ± 10.4; p < 0.001). Anxiety was also significantly associated with poor quality-of-life outcomes (p = 0.003).

Conclusion: Psychological morbidity is highly prevalent among women with abnormal uterine bleeding and is strongly associated with reduced quality of life. Incorporating routine psychological screening and multidisciplinary care into AUB management may improve overall patient outcomes.

Keywords: Abnormal uterine bleeding; Depression; Anxiety; Quality of life.

INTRODUCTION

Abnormal uterine bleeding (AUB) is one of the most common gynaecological complaints among women of reproductive age and represents a significant cause of outpatient visits and gynecological morbidity worldwide[1]. It is defined as any variation from the normal menstrual cycle in terms of frequency, duration, regularity, or volume of blood loss. The International Federation of Gynaecology and Obstetrics (FIGO) classifies AUB using the PALM–COIN system, encompassing both structural and non-structural etiologies. Despite advances in diagnostic approaches and therapeutic strategies, AUB continues to impose a considerable burden on affected women, particularly in low- and middle-income countries[2,3]. Clinically, AUB is often associated with iron-deficiency anaemia, chronic fatigue, dizziness, and reduced physical stamina. However, the impact of AUB extends beyond physical symptoms. Recurrent or excessive menstrual bleeding interferes with occupational productivity, social participation, sexual relationships, and family responsibilities[4]. Women with AUB frequently report embarrassment, fear of unpredictable bleeding, and limitations in daily activities, all of which can adversely influence emotional well-being. Emerging evidence suggests a strong association between gynaecological disorders and psychological morbidity[5]. Depression and anxiety are increasingly recognised as common yet underdiagnosed comorbidities in women with chronic gynecological conditions[6]. Persistent symptoms, uncertainty regarding diagnosis, repeated medical visits, and concerns about fertility or malignancy may contribute to psychological distress in women with AUB[7]. Furthermore, hormonal fluctuations, inflammatory processes, and anaemia-related hypoxia may biologically predispose these women to mood disturbances. Quality of life (QoL) is a multidimensional construct encompassing physical health, psychological state, social

relationships, and functional capacity. Studies have demonstrated that women with AUB experience significant impairment across multiple QoL domains, often comparable to or exceeding that observed in other chronic medical conditions. Psychological morbidity further amplifies this impairment, creating a cyclical relationship in which emotional distress worsens symptom perception and coping ability, thereby exacerbating overall disease burden[8,9]. Despite the high prevalence of AUB, psychological aspects of the condition remain inadequately addressed in routine clinical practice, particularly in resource-constrained healthcare settings. Most management strategies primarily focus on controlling bleeding and correcting anaemia, with limited emphasis on mental health screening or psychosocial support. Consequently, depression and anxiety often remain undetected, leading to suboptimal treatment outcomes and a persistent reduction in quality of life. In Pakistan and similar settings, cultural taboos surrounding menstruation, limited mental health resources, and poor awareness further compound the problem[10]. There is a paucity of local data evaluating the psychological impact of AUB and its effect on the quality of life among affected women. Understanding this association is essential for developing holistic, patient-centred management strategies that address both physical and psychological dimensions of the disease.

Study Objectives: To determine the frequency of depression and anxiety among women with abnormal uterine bleeding and to assess their association with impairment in health-related quality of life.

MATERIALS AND METHODS

Study Design & Setting: This cross-sectional analytical study was carried out Department of Psychiatry and Gynecology Bacha Khan Medical College / Mardan Medical Complex Mardan from Jan 2023 to June 2023

Participants: A total of 100 women aged 18–50 years diagnosed with abnormal uterine bleeding were enrolled using non-probability

consecutive sampling. All participants provided informed consent before inclusion. Patients were evaluated in outpatient and inpatient gynaecology units.

Sample Size Calculation: The sample size of 100 was calculated using an expected prevalence of depression among women with abnormal uterine bleeding of 40%, a 95% confidence level, and a margin of error of 10%. This ensured adequate statistical power for subgroup comparisons.

Inclusion Criteria: Women aged 18–50 years
Diagnosed with abnormal uterine bleeding
Willing to provide informed consent

Exclusion Criteria: Known psychiatric illness or current psychotropic medication use
Chronic systemic diseases (e.g., renal failure, malignancy)
Pregnancy or postpartum period

Diagnostic and Management Strategy: AUB was diagnosed based on clinical history, pelvic examination, and ultrasonography, where indicated. Psychological morbidity was assessed using validated depression and anxiety screening tools, while quality of life was evaluated using a standardised health-related questionnaire.

Statistical Analysis: Data were analysed using SPSS version 24.0. Quantitative variables were expressed as mean ± standard deviation, and qualitative variables as frequencies and percentages. Chi-square and independent t-tests were applied, with $p < 0.05$ considered statistically significant.

RESULTS

A total of 100 women with abnormal uterine bleeding were included in the study. The mean age of participants was 38.6 ± 7.9 years. Most women presented with heavy menstrual bleeding and irregular cycles. Depression was identified in 46% of participants, while 39% exhibited clinically significant anxiety symptoms. Women with depression had a significantly longer duration of bleeding and lower mean hemoglobin levels compared to those without depression ($p = 0.002$). Anxiety was significantly more prevalent among women reporting heavy menstrual blood loss and cycle irregularity ($p = 0.01$). Quality-of-life assessment revealed marked impairment across physical, psychological, and social domains. Women with depression demonstrated significantly lower overall quality-of-life scores than non-depressed participants (42.3 ± 9.6 vs. 58.7 ± 10.4; $p < 0.001$). Similarly, anxiety was significantly associated with poor quality-of-life outcomes ($p = 0.003$). A statistically significant relationship was observed between psychological morbidity and severity of AUB symptoms, including prolonged bleeding duration and increased menstrual blood loss ($p < 0.05$).

Intervention Outcome: Women identified with moderate to severe depression or anxiety were counselled and referred for psychiatric evaluation. Symptom-based gynaecological management combined with psychological referral resulted in improved patient satisfaction and better treatment adherence during follow-up visits.

Table 1. Sociodemographic and Clinical Characteristics of Study Participants (n = 100)

Variable	Frequency (%) / Mean ± SD
Age (years)	38.6 ± 7.9
Age group (18–30 years)	22 (22.0)
Age group (31–40 years)	44 (44.0)
Age group (41–50 years)	34 (34.0)
Marital status (Married)	82 (82.0)
Heavy menstrual bleeding	61 (61.0)
Irregular menstrual cycles	48 (48.0)
Duration of symptoms > 6 months	55 (55.0)
Mean hemoglobin level (g/dL)	9.8 ± 1.6

Table 1 summarizes baseline sociodemographic and clinical characteristics of women presenting with abnormal uterine bleeding. Continuous variables are expressed as mean ± standard deviation, while categorical variables are presented as frequencies and percentages.

Table 2. Frequency of Psychological Morbidity Among Women with Abnormal Uterine Bleeding

Psychological Parameter	Frequency (%)
Depression present	46 (46.0)
Depression absent	54 (54.0)
Anxiety present	39 (39.0)
Anxiety absent	61 (61.0)
Both depression and anxiety	28 (28.0)

Table 2 shows the prevalence of depression and anxiety among women with abnormal uterine bleeding as assessed using validated psychological screening tools.

Table 3. Association of Psychological Morbidity with Clinical Variables

Variable	Depression Present (n=46)	Depression Absent (n=54)	p-value
Duration of bleeding (months)	8.1 ± 3.4	5.6 ± 2.9	0.002
Hemoglobin level (g/dL)	9.1 ± 1.5	10.4 ± 1.4	0.002
Heavy menstrual bleeding (%)	34 (73.9)	27 (50.0)	0.01
Irregular cycles (%)	29 (63.0)	19 (35.2)	0.01

Table 3 demonstrates the association between depression and selected clinical variables. Independent t-test and chi-square test were applied where appropriate. A p-value < 0.05 was considered statistically significant.

Table 4. Quality-of-Life Scores According to Psychological Status

Psychological Status	Quality-of-Life Score (Mean ± SD)	p-value
Depression present	42.3 ± 9.6	<0.001
Depression absent	58.7 ± 10.4	
Anxiety present	44.1 ± 8.9	0.003
Anxiety absent	56.9 ± 9.8	

Table 4 compares overall quality-of-life scores between women with and without depression and anxiety. Lower scores indicate poorer quality of life. Independent t-test was used for comparison.

DISCUSSION

In this cross-sectional study of 100 women with abnormal uterine bleeding (AUB), nearly half screened positive for depression (46%) and over one-third for clinically significant anxiety (39%). Both conditions were strongly associated with worse health-related quality of life (QoL), with depressed participants demonstrating markedly lower QoL scores than non-depressed women ($p < 0.001$)[11,12]. These findings reinforce the concept that AUB is not solely a bleeding disorder; it is a multidimensional condition with substantial psychosocial consequences that should be addressed in routine gynecologic care. Our observed burden of psychological morbidity aligns with contemporary evidence linking heavy or irregular bleeding patterns to increased depressive and anxiety symptoms. Recent population-level and clinical studies report consistent associations between menstrual problems particularly heavy menstrual bleeding (HMB), irregular cycles, and dysmenorrhea and elevated psychological distress, supporting the direction and magnitude of associations seen in our cohort[13]. A 2025 analysis focusing on HMB highlighted higher risks of depressive symptoms and broader mental health concerns among women experiencing significant menstrual pain and functional disruption[14]. Similarly, recent epidemiologic work has reported that irregular cycles and menstrual symptom clusters are closely linked to depression and anxiety, suggesting that symptom chronicity and unpredictability may drive emotional dysregulation and maladaptive coping[15]. A key contribution of our results is the clear linkage between clinical severity markers and mental health outcomes. Depression was significantly associated with longer bleeding duration and lower haemoglobin levels ($p = 0.002$), indicating that cumulative symptom burden and anaemia may

amplify psychological vulnerability[16]. This relationship is biologically plausible: iron deficiency and anaemia contribute to fatigue, impaired cognition, sleep disturbance, and reduced functional capacity, which may precipitate or worsen depressive symptoms. In parallel, anxiety was more prevalent among women with heavy bleeding and irregular cycles ($p = 0.01$), consistent with studies identifying symptom unpredictability, fear of leakage or social embarrassment, and perceived loss of control as important drivers of anxiety in AUB/HMB[17]. Qualitative and mixed-methods study from South Asia similarly emphasises stigma, activity restriction, and interpersonal strain as common lived experiences of women with AUB, providing contextual explanation for the QoL deterioration observed in our sample[18]. The significant deterioration of QoL among women with depression and anxiety in our cohort is also consistent with recent QoL-focused literature. Current evidence demonstrates that menstrual disorders reduce QoL across physical, psychological, and social domains, with the greatest impairment occurring when symptoms overlap (e.g., heavy bleeding plus irregularity)[19]. This pattern parallels our observation of broad QoL impairment and the strongest decrement among women with psychological morbidity. Because QoL is a core patient-centred endpoint, our findings support incorporating standardised QoL tools (e.g., WHOQOL-BREF) into AUB assessment to quantify functional impact and to monitor improvement after treatment[20]. From a clinical perspective, these data support a multidisciplinary AUB care pathway. FIGO-endorsed structured evaluation (PALM–COEIN) can guide diagnosis and targeted therapy, but symptom control alone may be insufficient if depression/anxiety remains unrecognized. Prior work indicates that interventions for AUB/HMB can improve emotional well-being and QoL, particularly when management reduces bleeding severity and associated pain. However, recent large-sample analyses in women with AUB especially around the perimenopausal transition also show that psychosocial and lifestyle factors (and, in some settings, endocrine markers) interact with AUB to influence anxiety and depression risk, implying that screening and referral should be routine rather than discretionary.

Limitations: This study has certain limitations. Its cross-sectional design limits causal inference between abnormal uterine bleeding and psychological morbidity. The single-centre setting and relatively small sample size may restrict generalizability. Psychological morbidity was assessed using screening tools rather than diagnostic psychiatric interviews.

CONCLUSION

Depression and anxiety are highly prevalent among women with abnormal uterine bleeding and are strongly associated with impaired quality of life. Integrating routine psychological screening and multidisciplinary management into gynaecological care may improve overall well-being, treatment adherence, and patient-centred outcomes.

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