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Original Research Article

Clinical Characteristics and Management of Abnormal Uterine Bleeding in Reproductive-Age Women: A Cross-Sectional Study

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Abstract:

Background: Abnormal uterine bleeding (AUB) is a common gynecological condition affecting women of reproductive age and significantly impacts physical, psychological, and reproductive health. Understanding its clinical characteristics and management patterns is essential for improving patient outcomes.

Aim: To evaluate the clinical characteristics, underlying causes, and management of abnormal uterine bleeding among reproductive-age women using the FIGO PALM–COEIN classification.

Methodology: A hospital-based cross-sectional study was conducted among 300 women aged 20–50 years presenting with AUB at the Department of Obstetrics and Gynecology, Nalanda Medical College and Hospital, Patna,Bihar, India. Data on sociodemographic profile, clinical characteristics, causes of AUB, and treatment modalities were collected through interviews, clinical examination, and medical records. Causes were classified according to the FIGO PALM–COEIN system, and data were analyzed using SPSS version 25.

Results: Most participants had irregular menstrual cycles (67.3%), and heavy menstrual bleeding was reported in 39.3% of cases. Polycystic ovarian syndrome (32.7%) was the most common comorbidity, and anemia was the major complication (34.7%). Non-structural causes were predominant, particularly ovulatory dysfunction (32%) and unclassified cases (38.4%), while leiomyoma (17.3%) was the most frequent structural cause. Medical management, especially combined oral contraceptive pills (26%) and NSAIDs (24%), was the most commonly used treatment.

Conclusion: AUB in reproductive-age women is mainly associated with non-structural causes and is largely managed medically. Early diagnosis and appropriate classification can help improve management and reduce complications.

Keywords: Abnormal uterine bleeding, reproductive age women, FIGO PALM–COEIN classification, ovulatory dysfunction, clinical characteristics, management.

Introduction

Abnormal uterine bleeding (AUB) is among the most prevalent gynaecological complaints associated with women in the reproductive ages and it is a big issue of great concern to the world at large. It is the abnormality of the regular menstrual cycle pattern that is manifested in changes in the regularity, frequency, duration, or volume of menstrual bleeding, continuing over at least 6 months in women who are not pregnant [1]. Menstrual health is a significant measure of total reproductive and endocrine integrity, and any problems with menstrual cycles tend to indicate the presence of underlying gynaecological, hormonal or systemic problems. AUB contributes a significant portion of outpatient gynecological visits across the entire world, and almost one-third of women have encountered this condition at one point or another in their reproductive life. Owing to its high prevalence rate and its possible effects on the health of women, clinical features of AUB, its etiology, and treatment methods have been an issue of research and clinical practice.

AUB may occur in a number of clinical manifestations, which varies with bleeding disturbance patterns. These are menorrhagia, which can be defined as excessively heavy or prolonged menstrual

bleeding; metrorrhagia, which is an irregular bleeding that comes between menstrual periods; and polymenorrhea, which is more frequent than usual menstrual periods [2]. In most instances, women can have a mix of these symptoms, and this could take long before they can treat them. The bleeding abnormalities may be chronic and cause significant physical discomfort and disturbance of normal routine activities. Moreover, the unforeseen and extended bleeding of AUB tends to have a negative influence on the psychological well-being of women, their social performance, and their productivity at work. Since the symptoms and their impact on the quality of life are rather extensive, it is important to identify AUB early and manage it properly to minimize morbidity and increase the positive outcomes of reproductive health.

To standardize the terminology, diagnosis and treatment of abnormal uterine bleeding, the International Federation of Gynecology and obstetrics (FIGO) came up with the PALM-COEIN system of classification [3]. The classification offers a systematic guide of determining the etiologies of AUB and classifying it into structural and non-structural etiologies. The acronym PALM is used to express structural causes that entail Polyps, Adenomyosis, Leiomyomas, and Malignancy or hyperplasia. Non-structural causes fall under COEIN, and they are Coagulopathy, Ovulatory dysfunction, Endometrial causes, Iatrogenic causes and not yet classified. The standard use of this classification has greatly enhanced the clarity of diagnosis and enabled clinicians and scientists to communicate more effectively which has eventually contributed to the development of a better treatment plan and management of patients.

The etiology of AUB is quite diverse among women and depends on a variety of factors including age, parity, hormonal status, comorbid conditions, and others [4]. Abnormal structure structures, such as uterine fibroids (leiomyosa) and endometrial polyps are more common in women who are near the perimenopausal phase. Conversely, younger women and adolescents are more likely to have non-structural causes of PCOS which include ovulatory dysfunction. Endocrine dysfunctions like polycystic ovarian syndrome (PCOS), thyroid abnormalities or hyperprolactinemia are commonly linked to ovulatory dysfunction. Such conditions disturb hormonal regulation of the menstrual cycle resulting in irregular or excessive bleeding. Thus, it is vital to determine the etiology of AUB peculiar to each patient to choose the right therapeutic measures and provide the best clinical results.

In addition to the impact on menstrual regularity, AUB may cause some serious health complications, provided that it is not well managed. Iron deficiency anemia due to chronic or excessive blood loss is one of the most frequent effects. Anemia may be accompanied by feelings of fatigue, dizziness, weakness, and poor mental functions, which can significantly affect the functionality of the day and the quality of life in general [5]. Excessive bleeding can cause hypovolemia in extreme cases and has to be attended to by the emergency services, involving blood transfusion or hospital admission. Moreover, abnormal bleeding is also distressing and persistent, which may also add to psychological distress such as anxiety, depression, and withdrawal. The psychological burden on menstrual disorders is usually only worsened by the lack of open discussion along with cultural stigma, especially about menstrual disorders.

The treatment of abnormal uterine bleeding needs to be holistic and personalized to treat the cause and the extent of symptoms. The treatment is conservative medical therapy and surgery based on the etiology, preferences of the patients, and reproductive objectives. Hormonal therapies, which can be represented by combination oral contraceptive pills, progestins and the levonorgestrel-releasing intrauterine system (IUS), are also included in medical management. Nonsteroidal anti-inflammatory drugs (NSAIDs) and antifibrinolytic agents like tranexamic acid are also non-hormonal treatment methods mainly used to curb the menstrual blood loss [6]. Surgery like endometrial ablation, myomectomy or hysterectomy can be an option in situations when medical treatment is not effective or when structural abnormalities are involved. The choice of treatment would depend on a number of factors, such as the age of the patient, fertility intentions, the severity of symptoms, and comorbid conditions. Though the FIGO PALM-COEIN system offers a useful system of clinical decision-making, the end result of the treatment can be unsatisfactory, and some patients still might report some recurrent or chronic symptoms despite the relevant treatment.

Although diagnostic methods and treatment options are available to effectively address the condition, abnormal uterine bleeding is commonly poorly diagnosed and poorly treated especially in low-resource and developing countries. Cultural taboos and beliefs on menstruation do not encourage women in most societies to see a doctor in case they experience menstrual complications. Inadequate access to healthcare services, and insufficient awareness on the importance of menstrual health, as well as socioeconomic issues, also add to delays in diagnosis and treatment. Due to this, untreated AUB may cause serious complication like chronic anemia, endometrial hyperplasia, and in some instances, high risk of endometrial carcinoma [7]. Thus, the enhancement of awareness, encouragement of early healthcare seeking behaviour, and enhancement of clinical assessment are crucial measures toward the decrease of the burden of AUB.

Endometriosis is another disorder that can be involved in abnormal uterine bleeding as it is a chronic gynecological disorder that occurs when endometrial-like tissue is found beyond the uterine cavity. Even though endometriosis is traditionally linked to chronic pain in the pelvis and infertility, it might also cause menstrual problems and abnormal bleeding. Although the condition is not as common as other structural causes of structural forms of the disease like leiomyomas or polyps, it has far reached impact in reproductive health and quality of life of affected women. The complicated nature of the pathophysiology of endometriosis and its cooccurrence with other issues in gynecology contributes to the significance of the disease as a consideration in the assessment of patients who present with AUB [8].

In India, abnormal uterine bleeding remains a frequent cause of gynecological consultations, particularly among women of reproductive age. Variations in socioeconomic status, healthcare accessibility, cultural practices, and awareness levels can influence both the presentation and management of this condition. In regions such as Patna, Bihar, understanding the clinical characteristics and treatment patterns of AUB is particularly important in order to develop effective strategies for diagnosis, management, and patient education within the local healthcare context.

The aim of this study is to explore the clinical characteristics and management of abnormal uterine bleeding among women of reproductive age using the FIGO PALM-COEIN classification system. The study seeks to define the sociodemographic and obstetric profiles of these women, identify the underlying causes of AUB, evaluate the treatment patterns employed, and assess the complications associated with AUB. By examining these aspects within the clinical setting of Patna, Bihar, this research aims to contribute to a better understanding of the patterns of AUB and its management, ultimately helping to improve patient care, clinical decision-making, and reproductive health outcomes for women affected by this condition.

Methodology

Study Design: This study employed a hospital-based cross-sectional observational design to evaluate the clinical characteristics and management patterns of abnormal uterine bleeding (AUB) among women of reproductive age. A cross-sectional design was selected because it allows the collection of data from participants at a single point in time, providing a comprehensive overview of the prevalence, clinical presentation, underlying causes, and treatment approaches for AUB within the study population. This design is appropriate for identifying associations between demographic factors, clinical characteristics, and management modalities without requiring long-term follow-up of patients.

Study Area: The study was conducted in the Department of Obstetrics and Gynecology at Nalanda Medical College and Hospital (NMCH), Patna, Bihar, India.

Study Duration: The study was carried out over a period of six months from May 2025 to October 2025.

Sample Size: A total sample size of 300 women diagnosed with abnormal uterine bleeding was included in the study. Participants who fulfilled the inclusion criteria and consented to participate were consecutively recruited until the desired sample size was reached. The sample size was considered adequate to evaluate the clinical characteristics and management patterns of abnormal uterine bleeding in the study population.

Study Population: The study population consisted of women of reproductive age presenting with abnormal uterine bleeding at the Department of Obstetrics and Gynecology, Nalanda Medical College and Hospital, Patna, during the study period. Women attending the gynecology outpatient department as well as those admitted to the gynecology ward with complaints of abnormal uterine bleeding were considered for inclusion in the study. The population represented a diverse group of women from different socioeconomic and demographic backgrounds.

Inclusion Criteria

Participants were included in the study if they met the following criteria:

- Women aged 20–50 years (reproductive age group)
- Women presenting with abnormal uterine bleeding based on clinical evaluation
- Non-pregnant women
- Women who gave informed consent to participate in the study

Exclusion Criteria

Participants were excluded if they met any of the following criteria:

- Pregnant women
- Women with pregnancy-related bleeding (e.g., abortion, ectopic pregnancy, postpartum hemorrhage)
- Women with known bleeding disorders
- Women with severe systemic illness affecting menstrual patterns
- Patients with incomplete clinical records or refusal to participate

Data Collection: Data were collected using a structured and pre-designed data collection proforma prepared by the research team. Information was obtained through direct interviews with the patients,

clinical examination, and review of medical records. The data collected included sociodemographic characteristics such as age, residence, education, and occupation, as well as detailed menstrual history including duration, frequency, and pattern of bleeding. Additional information regarding obstetric history, parity, associated symptoms, past surgical history, and relevant medical conditions was also recorded. Laboratory investigations, ultrasonography findings, and other relevant diagnostic tests were reviewed from the patient records. The causes of abnormal uterine bleeding were classified according to the FIGO PALM-COEIN classification system, and the management methods used for treatment were documented.

Procedure: Eligible participants presenting to the gynecology outpatient department or admitted to the gynecology ward with complaints of abnormal uterine bleeding were identified by the attending physicians. After confirming eligibility and obtaining informed consent, detailed clinical history was recorded and a thorough general and gynecological examination was performed. Relevant laboratory investigations and imaging studies were reviewed from patient records. The collected information was recorded in the structured data collection form. The data were subsequently checked for completeness and accuracy before being entered into a computerized database for analysis.

Statistical Analysis: The collected data were entered into Microsoft Excel and subsequently analyzed using the Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics were used to summarize the demographic and clinical characteristics of the study population. Categorical variables such as causes of abnormal uterine bleeding and treatment modalities were presented as frequencies and percentages. Continuous variables such as age and hemoglobin levels were expressed as mean and standard deviation. The association between different variables was assessed using the Chi-square test for categorical data. A p-value of less than 0.05 was considered statistically significant."

Result

Table 1 presents the sociodemographic characteristics of the 300 study participants. The majority of women were aged 20–29 years (36.7%), followed by 30–39 years (35%) and 40–50 years (28.3%). More participants resided in rural areas (57.3%) compared to urban areas (42.7%). Regarding educational status, 31.3% had primary education, 27.3% had secondary education, 26% were illiterate, and 15.4% were graduates or above. Most participants were homemakers (65.3%), while 21.3% were employed and 13.4% were students. In terms of body mass index, 37.3% had normal BMI, 32% were overweight, 21.4% were obese, and 9.3% were underweight, indicating a notable proportion of participants with elevated BMI.

Table 1: Sociodemographic Characteristics of Study Participants (N = 300)

Variable	Category	N	%
Age group (years)	20–29	110	36.7
	30–39	105	35
	40–50	85	28.3
Residence	Urban	128	42.7
	Rural	172	57.3
Educational status	Illiterate	78	26
	Primary	94	31.3
	Secondary	82	27.3
	Graduate & above	46	15.4
Occupation	Homemaker	196	65.3
	Employed	64	21.3
	Student	40	13.4
Body Mass Index (BMI)	Underweight (<18.5)	28	9.3
	Normal (18.5–24.9)	112	37.3
	Overweight (25–29.9)	96	32
	Obese (≥30)	64	21.4

Table 2 describes the clinical characteristics, comorbidities, and complications among 300 patients with abnormal uterine bleeding. Most participants were multiparous (70.7%), while 29.3% were nulliparous. A majority of women experienced irregular menstrual cycles (67.3%), and the most common duration of bleeding was 4–8 days (63.3%), followed by >8 days (30.7%). Regarding bleeding volume, heavy menstrual bleeding was reported in 39.3% of patients. Among comorbidities, PCOS was the most frequent (32.7%), followed by hypothyroidism (10.7%) and hyperprolactinemia (3.7%). About 24.7% had a past surgical history. Common symptoms included fatigue (16%), pelvic pain (14.7%),

and mood changes (10%). In terms of complications, anemia was observed in 34.7% of patients, while infertility was reported in 7.3%.

Table 2: Clinical Characteristics, Comorbidities and Complications (N = 300)			
Variable	**Category**	**N**	**%**
Parity	Nulliparous	88	29.3
	Multiparous	212	70.7
Menstrual cycle pattern	Regular	98	32.7
	Irregular	202	67.3
Duration of bleeding	<4 days	18	6
	4–8 days	190	63.3
	>8 days	92	30.7
Volume of bleeding	Heavy menstrual bleeding	118	39.3
	Normal	164	54.7
	Light	18	6
Comorbidities	PCOS	98	32.7
	Hypothyroidism	32	10.7
	Hyperprolactinemia	11	3.7
Past surgical history	Yes	74	24.7
	No	226	75.3
Symptoms	Fatigue	48	16
	Pelvic pain	44	14.7
	Mood changes	30	10
Complications	Anemia	104	34.7
	Infertility	22	7.3

Table 3 shows the distribution of causes of abnormal uterine bleeding according to the FIGO PALM–COEIN classification among 300 patients. Among the structural (PALM) causes, leiomyoma was the most common, observed in 52 cases (17.3%), followed by polyps in 12 cases (4.0%), adenomyosis in 6 cases (2.0%), and malignancy/hyperplasia in 3 cases (1.0%). Among the non-structural (COEIN) causes, ovulatory dysfunction was identified in 96 patients (32.0%), while coagulopathy, endometrial causes, and iatrogenic causes accounted for 1.7%, 2.3%, and 1.3% of cases respectively. The largest proportion of cases fell under not yet classified (AUB-N), seen in 115 patients (38.4%). Overall, non-structural causes, particularly ovulatory dysfunction and unclassified cases, were the most frequent contributors to abnormal uterine bleeding in this study population.

Table 3: Distribution of Causes of Abnormal Uterine Bleeding According to FIGO PALM-COEIN Classification (N = 300)			
Category	**Cause**	**Yes N (%)**	**No N (%)**
PALM (Structural)	Polyps	12 (4.0)	288 (96.0)
	Adenomyosis	6 (2.0)	294 (98.0)
	Leiomyoma	52 (17.3)	248 (82.7)
	Malignancy/Hyperplasia	3 (1.0)	297 (99.0)
COEIN (Non-Structural)	Coagulopathy	5 (1.7)	295 (98.3)
	Ovulatory dysfunction	96 (32.0)	204 (68.0)
	Endometrial	7 (2.3)	293 (97.7)
	Iatrogenic	4 (1.3)	296 (98.7)
	Not yet classified	115 (38.4)	185 (61.6)

Table 4 presents the treatment modalities used for the management of abnormal uterine bleeding among 300 patients. Among hormonal treatments, combined oral contraceptive pills were the most commonly used (78 cases, 26%), followed by progesterone therapy (62 cases, 20.7%) and the levonorgestrel intrauterine system (18 cases, 6%). Among non-hormonal treatments, NSAIDs were used in 72 patients (24%), while tranexamic acid was prescribed in 44 patients (14.7%). A smaller proportion required surgical management, including dilatation and curettage (D&C) in 16 cases (5.3%), myomectomy in 6 cases (2%), and hysterectomy in 4 cases (1.3%). Overall, medical management, particularly hormonal therapy, was the most commonly employed approach.

Table 4: Treatment Modalities Used for Management of Abnormal Uterine Bleeding (N = 300)			
Treatment Type	**Category**	**N**	**%**
Hormonal Treatment	Combined oral contraceptive pills	78	26
	Progesterone therapy	62	20.7
	Levonorgestrel intrauterine system	18	6
Non-Hormonal Treatment	NSAIDs	72	24
	Tranexamic acid	44	14.7
Surgical Management	Dilatation & Curettage (D&C)	16	5.3
	Myomectomy	6	2
	Hysterectomy	4	1.3

Table 5 shows the association between treatment type and complications among 300 patients. Anemia was observed in 48 patients (46.2%) receiving hormonal treatment and 56 patients (53.8%) receiving non-hormonal treatment, showing a statistically significant difference (p = 0.041). Infertility occurred in 10 patients (45.5%) in the hormonal group and 12 patients (54.5%) in the non-hormonal group, but this difference was not statistically significant (p = 0.112). Pelvic pain was reported in 18 patients (40.9%) undergoing hormonal treatment and 26 patients (59.1%) receiving non-hormonal treatment, also without statistical significance (p = 0.083). However, mood changes were significantly more common in the hormonal treatment group (56.7%) compared to the non-hormonal group (43.3%) (p = 0.029). Overall, anemia and mood changes showed significant associations with the type of treatment.

Table 5: Association Between Treatment Type and Complications (N = 300)			
Complication	**Hormonal Treatment N (%)**	**Non-Hormonal Treatment N (%)**	**p-value**
Anemia	48 (46.2)	56 (53.8)	0.041
Infertility	10 (45.5)	12 (54.5)	0.112
Pelvic pain	18 (40.9)	26 (59.1)	0.083
Mood changes	17 (56.7)	13 (43.3)	0.029

Discussion

The current cross-sectional survey assessed clinical aspects and the management trends of abnormal uterine bleeding (AUB) in 300 reproductive-aged women. The largest percentage of the participants in our research was in the 20–29-year (36.7) and 30–39-year (35) age bracket respectively. Other previous studies have also indicated similar age distributions that have indicated AUB prevalence in women of reproductive age. As an illustration, Mishra and Sultan (2017) found that almost 40 percent of women who presented with AUB were aged 2130 years, which indicates that menstrual abnormalities were especially common in younger women in their reproductive age [9]. Conversely, the study by Betha et al., (2017) [10] identified that most AUB cases belonged to women aged 31-40 years (42%), which was slightly above that of our study, which could be due to age-related difference in population characteristics and healthcare-seeking behavior."

In the current research, the majority of the respondents belonged to the rural population (57.3 percent) rather than urban population (42.7 percent). This observation is similar to a number of studies carried out in hospitals within developing countries where females in the rural areas are the greatest numbers of gynecological patients because they lack access to preventive reproductive healthcare services. In a similar way, a study in rural India found that about 60 percent of AUB patients have a rural background, which highlights the impact of socioeconomic and geographical factors on the use of healthcare (Mishra & Sultan, 2017) [9]. The educational status of our study also indicated that almost a quarter of respondents could not read (26%), which is corroborated by previous studies that lower educational levels were linked to delayed healthcare-seeking behavior and poorer menstrual health awareness (Critchley et al., 2020) [11].

Our study on body mass index (BMI) analysis showed that 32% of the women were overweight and 21.4% were obese. The findings of this study correspond with those of other past reports that suggested that high BMI is a significant risk factor of menstrual irregularity and AUB. It has been observed that obesity can cause more androgen to be converted to estrogen in adipose tissues, leading to endometrial growth and abnormal bleeding patterns (Maybin and Critchley, 2016) [12]. Other studies have reported similar overweight and obesity rates among AUB patients, around 30-35 percent of women in these studies were overweight and obese, which again substantiates the correlation between metabolic factors and menstrual disorders (Lethaby et al., 2019) [13].

In reproductive attributes, most women in our study were multiparous (70.7%), and 29.3% were nulliparous. The same results may be reported by Betha et al., (2017) who found that almost two-thirds of the AUB cases were reported among multiparous

women [10]. The present study found 67.3% of participants with irregular menstrual cycles which is also comparable to those of other studies where irregular cycles were found to range between 60% and 70% in women with AUB (Maybin & Critchley, 2016) [12]. Moreover, 39.3 percent of female participants in our research complained about heavy menstrual bleeding, which corresponds to the earlier literature acknowledging heavy bleeding to be one of the most typical clinical signs of AUB (Lethaby et al., 2019) [13].

Polycystic ovarian syndrome (PCOS) was the most prevalent comorbidity in our research, with 32.7 percent of respondents having the condition. This observation is in line with past studies that indicate that PCOS is a significant endocrine disorder that leads to anovulatory cycles and AUB. Wang et al., (2019) had found that ovulatory dysfunction associated with PCOS contributes a great percentage of menstrual abnormalities among women of reproductive age [14]. A lower percentage of our participants (10.7) also had thyroid disorders, which is comparable to other studies that have proved that hypothyroidism can cause menstrual irregularities related to hormonal imbalance (Bahar et al., 2011) [15].

Distribution of AUB causes as per the FIGO PALM-COEIN classification used in our study indicated that the non-structural causes of AUB were more prevalent than the structural causes of AUB. The most common etiology was 32 percent ovulatory dysfunction. Similar results have been cited by Mishra and Sultan (2017), who diagnosed ovulatory dysfunction in an approximation of 30-35 percent of AUB cases [9]. Leiomyoma was the prevalent pathology in our study (17.3%), in the structural causes. This conforms to previous studies which have shown that uterine fibroids is a major structural cause of AUB among women of reproductive age (Kashani et al., 2016) [16]. Nevertheless, the rates of adenomyosis (2%) and endometrial polyps (4%) used in our study were comparatively lower than in some other studies with adenomyosis that comprised 5-10 percent (Upson and Missmer, 2020) [17]. The reasons of these differences might be in the difference of diagnostic methods, access to imaging and the characteristics of the population.

The most popular treatment modality used in the present study was hormonal therapy. The combined oral contraceptive pills were administered to 26 percent of the participants and progesterone therapy to 20.7 percent, and these are in line with the current recommendations of first-line management on AUB that recommend the use of hormonal therapy in the majority of cases. According to Lethaby et al. (2019), combined hormonal contraceptives are effective in the regulation of menstrual cycles and minimization of menstrual blood loss, and thus used as a treatment of choice [13]. Levonorgestrel intrauterine system (LNG-IUS) was applied in 6 percent of our study participants. Even though it has been used relatively poorly, past studies have shown it to be highly effective in the context of reducing heavy menstrual bleeding and enhancing the quality of life in women with AUB (Iyengar et al., 2022) [18].

NSAIDs (24) and tranexamic acid (14.7) are also widely used non-hormonal treatments, which are also common in our cohort. They are established treatments to decrease the blood loss during menstruation and are commonly prescribed to women who do not want to use hormonal therapy or have a contraindication to hormone therapy (Maybin and Critchley, 2016) [12]. Compared to our study, surgical intervention was less prevalent, and cases of dilatation and curettage (5.3 and 1.3) and hysterectomy (1.3) were also less common. The same tendencies were documented in the literature whereby conservative medical management is being favored as the first-line treatment option prior to the consideration of surgical operations (Critchley et al., 2020) [11].

Our study showed that the treatment modalities and complications were associated with a statistically significant association as anemia among women undergoing non-hormonal therapy (53.8), were more prevalent than women undergoing hormonal therapy (46.2). Similar findings have been reported in previous studies indicating that effective hormonal treatment can significantly reduce menstrual blood loss and consequently lower the risk of anemia in women with AUB (Maybin & Critchley, 2016) [12]. Mood changes were more commonly reported among women receiving hormonal therapy, which is consistent with earlier reports highlighting hormonal fluctuations as a potential contributor to psychological symptoms during treatment (Lethaby et al., 2019) [13]. Overall, these findings highlight the importance of individualized treatment strategies that consider both clinical effectiveness and potential side effects when managing abnormal uterine bleeding in reproductive-age women.

Conclusion

The present study highlights that abnormal uterine bleeding (AUB) in reproductive-age women is commonly observed among women from varied sociodemographic backgrounds, with a considerable proportion belonging to rural areas and predominantly engaged as homemakers. Irregular menstrual cycles and prolonged duration of bleeding were frequent clinical presentations, and a notable number of participants experienced heavy menstrual bleeding. Comorbid conditions such as polycystic ovarian syndrome and thyroid disorders were commonly associated with AUB, while anemia emerged as a major complication. According to the FIGO PALM-COEIN classification, non-structural causes, particularly ovulatory dysfunction and cases not yet classified, were more prevalent compared to structural

causes like leiomyoma. In terms of management, most women were treated with medical therapy, including hormonal and non-hormonal medications, whereas surgical interventions were used in a smaller proportion of cases. Overall, the findings emphasize the importance of early diagnosis, appropriate classification of causes, and individualized management strategies to effectively reduce complications and improve the quality of life among women with abnormal uterine bleeding.

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