Volume 4, Issue 3, 2026

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

PREVALENCE AND PATTERN OF ABNORMAL UTERINE BLEEDING (AUB) IN WOMEN OF REPRODUCTIVE AGE GROUP (WRA) ATTENDING TERTIARY CARE HOSPITAL (TCH).

Dr Rukhsana Rashid[*1], Dr. Fatima Jehangir[2], Dr. Shariq Nawab[3], Dr. Ambrina Qavi[4], Dr. Uroosh Tariq Khanzada[5]

[*1,3,4]*Resident, Department of Family Medicine, Ziauddin University Hospital*
[2]*Head of Department Family Medicine, Ziauddin University Hospital*

[*1]drrukhsanakk@hotmail.com [2]shariqnawabpak@gmail.com, [3]a_qavi@yahoo.com, [4]urooshkhanzada@gmail.com

DOI: https://doi.org/10.5281/zenodo.23209335

Keywords
Heavy metals, Cosmetics, Lead, Cadmium, Mercury, health safety, Sindh, Pakistan

Article History
Received: 27 January 2026
Accepted: 12 March 2026
Published: 26 March 2026

Copyright @Author

Corresponding Author: *
Dr Rukhsana Rashid

Abstract

Introduction: *Abnormal uterine bleeding (AUB) is a common gynecological problem in reproductive-age women. It affects physical, reproductive, and social well-being. Identifying its pattern and causes supports appropriate evaluation and management.*

Objective: *To determine the pattern of AUB among women aged 18–45 years attending the gynecology outpatient department and to classify cases using the FIGO PALM-COEIN system.*

Methods: *This descriptive cross-sectional study was conducted at the Primary Health Center, Sikanderabad, from November 2025 to April 2026. Using consecutive sampling, 320 women were recruited. Data were collected with a structured questionnaire, and body mass index was calculated. Causes were classified as structural (PALM) or non-structural (COEIN).*

Results: *The mean age was 31.6 ± 7.2 years. Most women were multiparous (62.5%), and 61.3% were overweight or obese. Heavy menstrual bleeding was the most common pattern (34.4%), followed by irregular (25.0%) and prolonged bleeding (18.8%). Non-structural causes accounted for 55.9% of cases and structural causes for 44.1%. Leiomyoma and ovulatory dysfunction were the leading causes (20.0% each).*

Conclusion: *AUB is a significant gynecological burden. Standardized PALM-COEIN classification, together with assessment of demographic and reproductive factors, supports accurate diagnosis and management.*

Keywords: *Abnormal uterine bleeding; reproductive-age women; PALM-COEIN; FIGO; heavy menstrual bleeding; leiomyoma; ovulatory dysfunction; menstrual disorders.*

INTRDOCUTION

Abnormal uterine bleeding (AUB) is a common gynecological problem among women of reproductive age and may adversely affect physical, reproductive, and social well-being. Identifying its prevalence and etiological pattern is important for appropriate evaluation and management.

Volume 4, Issue 3, 2026

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Objective: To determine the prevalence and pattern of AUB among women aged 18–45 years attending the gynecology outpatient department and classify cases according to the FIGO PALM-COEIN system.

Methods: A descriptive cross-sectional study was conducted at the Primary Health Center, Sikanderabad, from November 2025 to April 2026. A total of 320 women were recruited through consecutive sampling. Demographic, reproductive, menstrual, and clinical information was collected using a structured questionnaire. Body mass index was calculated, and AUB causes were categorized into structural and non-structural groups according to FIGO PALM-COEIN criteria.

Results: Heavy menstrual bleeding was the most common pattern (34.4%), followed by irregular bleeding (25.0%) and prolonged bleeding (18.8%). Non-structural causes accounted for 55.9% of cases, while structural causes represented 44.1%. Ovulatory dysfunction (20.0%) and leiomyoma (20.0%) were the leading causes.

Conclusion: AUB represents an important gynecological burden. Standardized PALM-COEIN classification and assessment of demographic and reproductive factors can facilitate appropriate diagnosis and management.

Keywords: *Abnormal uterine bleeding; reproductive-age women; PALM-COEIN; FIGO; heavy menstrual bleeding; leiomyoma; ovulatory dysfunction; menstrual disorders.*

INTRODUCTION

Abnormal uterine bleeding (AUB) is one of the most common gynecological complaints among women of reproductive age and an important cause of morbidity and reduced quality of life. It includes bleeding that differs from normal menstruation in frequency, regularity, duration, or volume. AUB may result in anemia, fatigue, psychological distress, and impaired daily activities. Recent evidence demonstrates a substantial burden of AUB among reproductive-age women and highlights its association with demographic and reproductive factors (1).

The prevalence and clinical presentation of AUB vary between populations because of differences in age, parity, body mass index, reproductive history, lifestyle, and associated medical conditions. Studies among reproductive-age women have reported considerable variation in the magnitude of AUB and its determinants (2). Age, parity, body mass index, and reproductive history may influence menstrual patterns and the likelihood of developing abnormal bleeding (3). Women presenting to gynecological services therefore require assessment beyond the bleeding complaint itself. Identifying associations between AUB and basic demographic characteristics can help clinicians recognize women who may require further evaluation.

Pregnancy must be excluded when evaluating abnormal vaginal bleeding in women of reproductive age because pregnancy-related bleeding can have different causes and management. Unintended pregnancy remains an important reproductive health issue, particularly in developing countries. A careful reproductive history and appropriate pregnancy assessment are therefore essential before classifying bleeding as AUB and initiating investigations for non-pregnancy-related causes (4). Women presenting with abnormal bleeding may also have coexisting gynecological abnormalities. Pelvic structural conditions can produce gynecological symptoms and may influence menstrual characteristics (5). Comprehensive clinical assessment is therefore important for identifying associated pelvic pathology.

AUB represents an important reason for attendance at gynecological outpatient departments. Hospital-based studies have demonstrated a considerable burden of abnormal bleeding among women seeking gynecological care (6). Endocrine disorders can significantly affect menstrual function because normal menstruation depends on coordinated hormonal regulation. Thyroid dysfunction, in particular, may cause changes in menstrual regularity, duration, and bleeding volume. Studies conducted in tertiary-care settings have demonstrated different patterns of AUB among women with thyroid dysfunction. Assessment for relevant systemic conditions is therefore important when women present with persistent or unexplained menstrual abnormalities (7).

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

The clinical pattern of AUB may vary considerably between women. Some experience heavy menstrual bleeding, whereas others report prolonged, frequent, irregular, or unpredictable bleeding. Understanding these patterns is important for clinical assessment because the characteristics of bleeding may provide clues regarding the underlying mechanism. Describing the predominant bleeding patterns in a study population can also provide useful information for improving recognition and management of AUB (8). Several studies have identified associations between AUB and demographic and reproductive factors, including age, parity, and body composition. These variables are relatively simple to assess during routine outpatient visits and may help identify differences in AUB across patient groups. Evaluating such characteristics can therefore provide a clearer understanding of the population affected by abnormal bleeding and support more focused clinical assessment (9).

AUB should be considered a symptom rather than a single disease because multiple structural and non-structural conditions can produce abnormal bleeding. Some underlying causes may remain unrecognized when women consider heavy or irregular menstruation to be normal. Appropriate evaluation is consequently necessary to identify both obvious and less apparent causes and to prevent delays in diagnosing clinically significant gynecological disorders (10). The FIGO PALM-COEIN classification provides a standardized framework for determining the causes of AUB. PALM includes structural causes polyp, adenomyosis, leiomyoma, and malignancy or hyperplasia whereas COEIN includes coagulopathy, ovulatory dysfunction, endometrial disorders, iatrogenic causes, and causes not otherwise classified. This system allows AUB cases to be systematically categorized and facilitates consistent clinical communication and research reporting (11).

Lifestyle and nutritional characteristics may also influence menstrual health. Dietary patterns have been investigated in relation to AUB, suggesting that nutritional diversity and metabolic factors may contribute to menstrual abnormalities. Body mass index is particularly relevant because excess or insufficient body weight can influence endocrine function and ovulation. Including BMI in AUB studies can therefore help identify potentially important patterns among affected women (12). FIGO Systems 1 and 2 provide a standardized approach to evaluating AUB (13). System 1 describes bleeding characteristics, including frequency, regularity, duration, and volume, while System 2 classifies potential causes according to PALM-COEIN. Using these systems together improves the consistency of AUB assessment and allows researchers to compare bleeding patterns and etiological categories across different populations and healthcare settings.

Endometrial pathology is an important consideration in women presenting with AUB, particularly when bleeding is persistent or associated with relevant risk factors. Endometrial hyperplasia may manifest as abnormal bleeding and can be associated with hormonal and metabolic abnormalities. Identification of women potentially at risk of endometrial pathology is therefore an important component of AUB evaluation and may indicate the need for further diagnostic investigation (14). International studies have demonstrated that the distribution of AUB causes varies between populations. A national Japanese survey applying the FIGO classification showed the usefulness of categorizing AUB according to structural and non-structural causes (15). Applying a standardized classification in local populations allows meaningful comparison while also identifying differences related to demographic characteristics, reproductive patterns, and healthcare settings.

Age is an important factor when evaluating menstrual abnormalities because menstrual characteristics and reproductive physiology change across the reproductive lifespan. Studies among younger women have demonstrated variations in menstrual regularity and self-reported AUB. Although the present study includes women aged 18–45 years, examining age groups remains important because different ages may be associated with different reproductive histories and underlying causes of abnormal bleeding (16). Despite its frequency and potential impact on women's health, AUB may remain under-

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

recognized because women do not always identify heavy or irregular menstruation as abnormal. Limited awareness may delay healthcare-seeking and diagnosis. Therefore, determining the prevalence and pattern of AUB among women aged 18–45 years, classifying cases according to PALM-COEIN, and examining associations with age, parity, and BMI are important for improving recognition and clinical management of this common gynecological problem (17).

Objective :

General Objective

The aim of the study was to find the prevalence and pattern of (AUB) among women of reproductive age attending the gynecology outpatient department of a tertiary care hospital.

Specific Objectives

1. To determine the frequency of (AUB) among women of reproductive age (18–45 years) attending the gynaecology outpatient department.
2. To classify the identified cases of AUB according to the FIGO PALM-COEIN system into structural and non-structural categories.
3. To describe the pattern of AUB in relation to age group, parity, and body mass index.

MATERIAL AND METHOD

A descriptive, cross-sectional study was conducted at the Primary Health Center, Sikanderabad, over six months from November 2025 to April 2026. The study included women of reproductive age (18–45 years) presenting to the gynecology outpatient department with complaints of abnormal menstrual bleeding. The minimum calculated sample size was 288, based on an expected AUB prevalence of 25%, 95% confidence level, and 5% absolute precision using the WHO sample size calculator. To compensate for incomplete information or non-response, the sample was increased to 320 participants. Non-probability consecutive sampling was used to recruit eligible women. Women aged 18–45 years who presented with abnormal menstrual bleeding and provided written informed consent were included. Pregnant or suspected pregnant women, postmenopausal women, women below menarche, those with previously diagnosed bleeding disorders receiving hematological treatment, and women unable to provide reliable menstrual histories or declining consent were excluded. Relevant demographic, reproductive, menstrual, and clinical information was collected using a structured questionnaire. AUB cases were classified according to the FIGO PALM-COEIN system, and age, parity, and body mass index were recorded for analysis.

Study Design: Descriptive, cross-sectional study.

Setting: Primary Health Center Sikanderabad..

Duration of Study: 6months (Nov 2025-April 2026)

Sample Size: The minimum sample size for a single population proportion is 288 using the WHO sample size calculator at 95% confidence level, with an expected prevalence of AUB of 25%, and an absolute precision of 5%. The sample size is rounded up to 320 women, with an expectation that about 10% of the women will not provide complete data or consent.

Sample technique: Non-probability, consecutive sampling.

SAMPLE SELECTION

Inclusion Criteria:

- Women aged 18–45 years.
- Presenting to the gynaecology outpatient department with a complaint of abnormal menstrual bleeding.
- Willing to give written informed consent.

Exclusion Criteria:

- Confirmed or suspected pregnancy.
- Postmenopausal women or women below menarche.
- Known bleeding disorder already under haematological treatment prior to presentation.
- Women who decline consent or are unable to provide reliable menstrual history.

METHODS

After obtaining ethical approval and written informed consent, eligible women attending the gynecology outpatient department were consecutively recruited during the study period. A structured questionnaire was used to collect information regarding age, marital and reproductive history, parity, menstrual characteristics, duration and pattern of bleeding, and relevant medical history. Weight and height were measured using standard procedures, and

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

body mass index (BMI) was calculated as weight in kilograms divided by height in meters squared. A detailed menstrual history was obtained to identify abnormal frequency, regularity, duration, and bleeding volume. Pregnancy was excluded before enrollment, and women with suspected or confirmed pregnancy were not included. Participants identified as having AUB underwent clinical assessment and relevant investigations according to the treating gynecologist's judgment. The underlying causes were categorized using the International Federation of Gynecology and Obstetrics (FIGO) PALM-COEIN classification into structural (PALM) and non-structural (COEIN) categories. Data were checked for completeness, coded, entered into a statistical database, and analyzed using descriptive statistics. Frequencies and percentages were calculated for categorical variables, while continuous variables were summarized using appropriate measures of central tendency and dispersion.

RESULTS

A total of 320 women aged 18–45 years were included in the study. The mean age of participants was 31.6 ± 7.2 years. The largest proportion belonged to the 26–35-year age group (43.1%), followed by women aged 36–45 years (32.2%) and 18–25 years (24.7%). Regarding parity, 62.5% of women were multiparous, 21.9% were primiparous, and 15.6% were nulliparous. Based on body mass index (BMI), 36.3% of participants were overweight, 28.8% had normal BMI, 25.0% were obese, and 10.0% were underweight. The demographic and reproductive characteristics are summarized in Table 1.

Table 1. Demographic and Reproductive Characteristics of Participants (n = 320)

Characteristic	Frequency (n)	Percentage (%)
Age group		
18–25 years	79	24.7
26–35 years	138	43.1
36–45 years	103	32.2
Parity		
Nulliparous	50	15.6
Primiparous	70	21.9
Multiparous	200	62.5
Body mass index (BMI)		
Underweight	32	10.0
Normal	92	28.8
Overweight	116	36.3
Obese	80	25.0

The most frequently reported bleeding pattern was heavy menstrual bleeding, observed in 34.4% of participants, followed by irregular bleeding (25.0%), prolonged bleeding (18.8%), frequent menstruation (12.5%), and intermenstrual bleeding (9.4%). Overall, 68.1% of women reported a single predominant bleeding pattern, whereas 31.9% reported combinations of two or more abnormal characteristics. The distribution of menstrual patterns is presented in Table 2 and illustrated in Figure 1.

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Table 2. Pattern of Abnormal Uterine Bleeding (n = 320)

Bleeding pattern	Frequency (n)	Percentage (%)
Heavy menstrual bleeding	110	34.4
Irregular bleeding	80	25.0
Prolonged bleeding	60	18.8
Frequent menstruation	40	12.5
Intermenstrual bleeding	30	9.4
Total	320	100.0

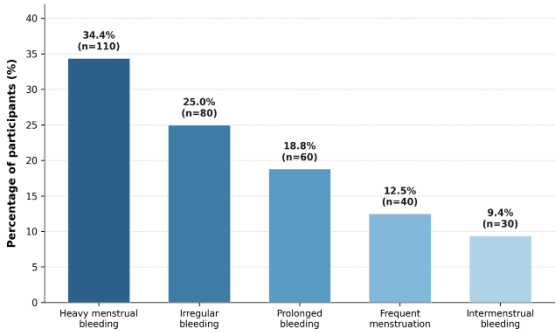


Figure 1. Distribution of the major bleeding patterns among 320 women with abnormal uterine bleeding (AUB).

According to the FIGO PALM-COEIN classification, non-structural causes constituted the majority of AUB cases (55.9%), while structural causes accounted for 44.1%. Among structural causes, leiomyoma was the most frequent diagnosis (20.0%), followed by adenomyosis (10.0%), endometrial polyp (8.1%), and endometrial hyperplasia or malignancy (5.9%). Among non-structural causes, ovulatory dysfunction was predominant (20.0%), followed by endometrial causes (15.0%), iatrogenic causes (10.0%), coagulopathy (5.0%), and other or unclassified causes (5.9%). The detailed distribution is shown in Table 3 and Figure 2.

Table 3. Distribution of AUB According to the FIGO PALM-COEIN Classification

Category	Cause	Frequency (n)	Percentage (%)
PALM	Structural causes		
P	Polyp	26	8.1
A	Adenomyosis	32	10.0
L	Leiomyoma	64	20.0
M	Hyperplasia / Malignancy	19	5.9
	Total PALM	141	44.1

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Category	Cause	Frequency (n)	Percentage (%)
COEIN Non-structural causes			
C	Coagulopathy	16	5.0
O	Ovulatory dysfunction	64	20.0
E	Endometrial	48	15.0
I	Iatrogenic	32	10.0
N	Not otherwise classified	19	5.9
	Total COEIN	179	55.9
	Overall	320	100.0

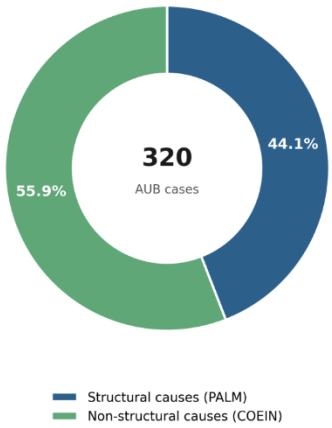


Figure 2. Proportion of structural (PALM) and non-structural (COEIN) causes among 320 AUB cases.

The pattern of AUB varied across age groups. Heavy menstrual bleeding was most common among women aged 26–35 years, whereas irregular bleeding was relatively more frequent among women aged 18–25 years. Structural causes were more frequently identified among women aged 36–45 years, while non-structural causes predominated among younger participants. AUB also showed variation according to parity and BMI: multiparous women represented the largest proportion of cases, while overweight and obese women together accounted for 61.3% of participants. Table 4 and Figure 3 summarize the distribution of major AUB categories according to age group.

Table 4. Distribution of Major AUB Patterns According to Age Group

Age group	Heavy bleeding n (%)	Irregular bleeding n (%)	Prolonged bleeding n (%)	Other patterns n (%)
18–25 years (n=79)	20 (25.3)	25 (31.6)	15 (19.0)	19 (24.1)
26–35 years (n=138)	55 (39.9)	35 (25.4)	25 (18.1)	23 (16.7)
36–45 years (n=103)	35 (34.0)	20 (19.4)	20 (19.4)	28 (27.2)

Volume 4, Issue 3, 2026

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

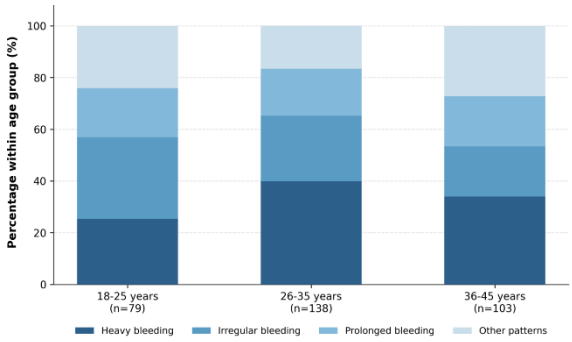


Figure 3. Distribution of bleeding patterns across the three age groups, expressed as a percentage within each group.

DISCUSSION

Abnormal uterine bleeding is a common gynecological problem with substantial implications for women's physical, reproductive, and social well-being. In the present study, AUB was observed across all reproductive-age groups, with heavy menstrual bleeding being the most frequent pattern. These findings support the recognition of AUB as an important outpatient gynecological problem requiring systematic assessment and appropriate classification (1). The predominance of women aged 26–35 years in the present study suggests that AUB is not restricted to women approaching the end of reproductive life. Previous evidence has demonstrated a considerable burden of AUB among reproductive-age women and identified demographic and reproductive characteristics as important associated factors (2).

In the present study, multiparous women represented the largest proportion of participants, followed by primiparous and nulliparous women. Similar research has demonstrated relationships between AUB and reproductive characteristics, including parity (3). Repeated pregnancy and childbirth may influence uterine structure and endocrine function, although parity should be interpreted alongside age, BMI, contraceptive use, and other potential determinants rather than being considered an independent explanation for abnormal bleeding (4). Careful pregnancy assessment is therefore necessary before attributing abnormal vaginal bleeding to gynecological causes and applying the PALM-COEIN classification.

The present findings also emphasize the importance of comprehensive gynecological assessment in women presenting with AUB. Although the current study focused primarily on AUB patterns and PALM-COEIN categories, recognition of associated pelvic pathology remains important because appropriate examination and imaging may be required to establish the underlying cause (5). The frequency of AUB identified in this hospital-based population indicates that abnormal bleeding represents an important component of gynecological outpatient workload. Similar findings from tertiary-care settings have emphasized the clinical importance of AUB among women seeking gynecological consultation (6). Differences in prevalence between studies may result from variations in study populations, definitions, healthcare-seeking behavior, and diagnostic facilities available at individual institutions.

Endocrine disorders, particularly thyroid dysfunction, are recognized contributors to menstrual abnormalities. Although thyroid status was not specifically analyzed in the present study, the identification of substantial non-structural AUB supports the importance of considering systemic causes during clinical evaluation. Thyroid-related menstrual disturbances may manifest through changes in bleeding amount, duration, or regularity, emphasizing the need for appropriate investigation when clinically indicated (7). Heavy menstrual bleeding was the

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

predominant bleeding pattern in the present study, followed by irregular and prolonged bleeding. This finding demonstrates that AUB has considerable clinical heterogeneity. Previous hospital-based evidence similarly identified multiple bleeding patterns among affected women, supporting the need to record frequency, regularity, duration, and bleeding volume rather than relying on a single symptom to characterize AUB (8).

The observed variation of AUB according to age, parity, and BMI is consistent with the multifactorial nature of abnormal bleeding. In the present study, overweight and obese women constituted a substantial proportion of participants. Previous evidence has identified associations between AUB and demographic, reproductive, and anthropometric characteristics (9). Increased adiposity may influence estrogen metabolism and ovulatory function, potentially contributing to menstrual abnormalities. The findings also reinforce the concept that AUB may represent the visible manifestation of both obvious and less apparent gynecological disorders. Women may normalize heavy or irregular menstruation and consequently delay consultation. Such delays can allow anemia or underlying pathology to persist (10). A systematic approach to assessment is therefore necessary to distinguish uncomplicated menstrual disturbances from conditions requiring investigation and treatment.

Application of the FIGO PALM-COEIN classification in the present study demonstrated that non-structural causes were slightly more frequent than structural causes. Ovulatory dysfunction was the leading non-structural category, while leiomyoma was the most common structural cause. This distribution illustrates the value of PALM-COEIN in organizing diverse etiologies into clinically meaningful categories and facilitating standardized reporting of AUB (11). The association between BMI and menstrual abnormalities observed in this study may also have nutritional and metabolic implications. Dietary and lifestyle characteristics can influence body composition, endocrine activity, and reproductive function. Evidence examining dietary diversity and AUB suggests that menstrual health may be related to broader nutritional patterns (12).

The use of FIGO-based terminology strengthens the comparability of the present findings with other AUB studies. FIGO System 1 facilitates description of bleeding characteristics, whereas System 2 categorizes etiological causes through PALM-COEIN. Combining clinical bleeding patterns with etiological classification provides a more complete representation of AUB and may improve communication between clinicians, researchers, and patients (13). Leiomyoma was the most frequent structural cause in the present study, followed by adenomyosis, polyps, and endometrial hyperplasia or malignancy. The identification of endometrial hyperplasia is clinically relevant because persistent AUB can occasionally indicate endometrial pathology. Previous research has demonstrated that hyperplasia occurs among women presenting with AUB and that recognition of associated risk factors is important for selecting women requiring further evaluation (14).

The proportion of structural and non-structural AUB observed in this study may differ from findings reported internationally. Such differences are expected because the prevalence of individual PALM-COEIN categories is influenced by age, reproductive characteristics, referral patterns, diagnostic methods, and healthcare access. National evidence applying FIGO classification demonstrates the usefulness of standardized categorization while also highlighting variations in etiological distribution between populations (15). Age-related differences in bleeding patterns were observed in the present study, with irregular bleeding relatively more prominent among younger women and structural causes more evident among older reproductive-age women. Although the study did not include adolescents, evidence from younger populations demonstrates that menstrual characteristics vary with age and reproductive maturation(16). These findings support age-specific consideration when evaluating abnormal bleeding .

Finally, the clinical significance of AUB extends beyond its biological causes because awareness influences healthcare-seeking behavior (17).

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Women may not recognize heavy, prolonged, or irregular menstruation as abnormal and may therefore delay assessment. Improving awareness of AUB could encourage earlier presentation and diagnosis. The present findings consequently support the need for both standardized clinical evaluation and patient education regarding abnormal menstrual bleeding.

CONCLUSION

Abnormal uterine bleeding is a common and clinically important gynecological problem among women of reproductive age. In this study, heavy menstrual bleeding was the most frequently observed bleeding pattern, followed by irregular and prolonged bleeding. The findings demonstrated that AUB occurred across all reproductive-age groups, with variations according to age, parity, and body mass index. According to the FIGO PALM-COEIN classification, non-structural causes were more frequent than structural causes, with ovulatory dysfunction representing the predominant non-structural cause and leiomyoma the most common structural cause. These findings highlight the multifactorial nature of AUB and the importance of systematic clinical assessment. Routine evaluation should include detailed menstrual and reproductive history, assessment of BMI, exclusion of pregnancy, and appropriate investigations to identify underlying structural, endocrine, and other non-structural causes. Early recognition, standardized classification, and appropriate management may reduce complications and improve the reproductive and overall quality of life of affected women.

REFERENCES

Yesuf A, Molla B, Susu B, Ahmed S, Abdeallah A, Derbew J, Emagneneh T, Demeke M, Mulugeta C, Yimer A. Epidemiology and associated factors of abnormal uterine bleeding among reproductive-age women: evidence from Woldia City, Northeast Ethiopia. Scientific Reports. 2025;15(1):38633. doi:10.1038/s41598-025-22535-9.

Seid A, Bulto GA, Yesuf A, Yimer A, Ahmed H, Muse TB. Magnitude and determinants of abnormal uterine bleeding among reproductive-age women in Kombolcha Rejiopolitan Administrative Town, Northeast Ethiopia: a FIGO-based study (2023). Frontiers in Reproductive Health. 2025;7:1559105. doi:10.3389/frph.2025.1559105.

Abebe M, Melaku G, Hareru HE, Tebeje TM. Abnormal uterine bleeding and its associated factors among reproductive-age women who visit the gynecology ward in Dilla University General Hospital, Southern Ethiopia, 2022. BMC Women's Health. 2024;24(1):281. doi:10.1186/s12905-024-03128-6.

Akhter HF, Sabiha C, Yolande R, Noushin I, Bidhan Krishna S, Ashrafi Jahan A, Laura R. Understanding unintended pregnancy in Bangladesh: country profile report. Bangladesh.

Batra A, Chawla A. P01.01: Clinical assessment of levator hiatus distensibility in women with pelvic organ prolapse. Category: Non-surgical Gynaecology.

Daniel Y. Abnormal uterine bleeding and associated factors among reproductive age women visiting gynecologic OPD at tertiary hospitals, Bahir Dar, North-West Ethiopia.

Shenoy H. Evaluating patterns of abnormal uterine bleeding (AUB) in thyroid dysfunction at a tertiary care centre in North Kerala, India.

Mutakha GS, Mwaliko E, Kirwa P. Clinical bleeding patterns and management techniques of abnormal uterine bleeding at a teaching and referral hospital in Western Kenya. PLoS One. 2020;15(12). doi:10.1371/journal.pone.0243166.

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Gerema U, Kene K, Abera D, Adugna T, Nigussie M, Dereje D, Mulugeta T. Abnormal uterine bleeding and associated factors among reproductive age women in Jimma town, Oromia Region, Southwest Ethiopia. Women's Health. 2022;18:17455057221077577. doi:10.1177/17455057221077577.

Leal CR, Vannuccini S, Jain V, Dolmans MM, Sardo AD, Al-Hendy A, Reis FM. Abnormal uterine bleeding: the well-known and the hidden face. Journal of Endometriosis and Uterine Disorders. 2024;6:100071. doi:10.1016/j.jeud.2024.100071.

Fedosiuk K, Pakharenko L, Chayka K, Basiuha I, Kurtash O. Abnormal uterine bleeding in women of reproductive age: PALM-COEIN causes. Bangladesh Journal of Medical Science. 2023;22(4):809-814.

Yu S, Lai L, Li X, Lei L, Zhang X, Liu L, Song P, Zhang X, Ma Y, Lan Q, Liu Y. The association between dietary diversity and patterns in Chinese university students with abnormal uterine bleeding: a cross-sectional study. Nutrition & Metabolism. 2024;21(1):108.

Jain V, Munro MG, Critchley HO. Contemporary evaluation of women and girls with abnormal uterine bleeding: FIGO Systems 1 and 2. International Journal of Gynecology & Obstetrics. 2023;162:29-42.

Farzaneh F, Mirgaloybayat S, Niazi AA, Dehghan Haghighi J, Ajdary M, Eslahi N, Raisi M. Prevalence of endometrial hyperplasia and its related factors in patients with AUB. Journal of Obstetrics, Gynecology and Cancer Research. 2024;9(3):311-316.

Kitahara Y, Hiraike O, Ishikawa H, Kugu K, Takai Y, Yoshino O, Ono M, Maekawa R, Ota I, Iwase A. National survey of abnormal uterine bleeding according to the FIGO classification in Japan. Journal of Obstetrics and Gynaecology Research. 2023;49(1):321-330.

Nakamura RM, Rezende GP, Yela DA, Benetti-Pinto CL. Menstrual pattern and self-reported abnormal uterine bleeding in Brazilian adolescents: a multicenter cross-sectional study. International Journal of Gynecology & Obstetrics. 2025;171(2):684-690.

Sohal M, Verma A. Bleeding concerns: evaluating awareness of abnormal uterine bleeding (AUB) among women of reproductive age in Delhi. Health. 2025;6(1):1-5.