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Original Research Article

Menstrual Disorders and Abnormal Uterine Bleeding: A Retrospective Analysis of Menstrual Disorders and Abnormal Uterine Bleeding, Including Diagnosis and Treatment Outcomes

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Abstract

Background: The most common gynaecological issues in reproductive-age women are menstrual disorders and Abnormal Uterine Bleeding (AUB), which can cause anaemia, lower quality of life, and higher healthcare costs. Women's reproductive health depends on accurate identification and treatment of anatomical anomalies and hormonal imbalances.

Methods: The researchers retrospectively observed 100 women (15–50 years old) who sought therapy for menstrual abnormalities or AUB between August 2023 and July 2024. Description statistics were used to assess demographics, clinical presentation, diagnostic testing, treatment modes, and results.

Results: Menstrual problems included 40% menorrhagia, 20% oligomenorrhea, and 15% polymenorrhea. The most common causes were uterine fibroids (25%) and endometrial thickness (20%). In 82% of cases, medical therapy worked; in 28%, surgery was needed.

Conclusion: Most individuals had hormonal or structural menorrhagia. Menstruation difficulties and AUB patients who are recognised early and treated individually have better outcomes.

Keywords: Menstrual Disorders, Abnormal Uterine Bleeding, Retrospective Study, Diagnosis, Treatment Outcome, Reproductive Health, Bihar.

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Introduction

Menstruation, which impersonators the female reproductive system's complex hormonal interaction, is a basic physiological event [1]. Flow lasts 3–7 days and blood loss averages 30–80 millilitres during 21–35-day menstrual cycles. The hypothalamic-pituitary-ovarian axis and endometrium must communicate well to maintain this cycle. Women's reproductive and overall health depend on regular menstruation. Imperfections may suggest gynaecological, endocrine, or systemic disorders. Understanding menstrual physiology and abnormalities is crucial to assessing a woman's health, especially throughout her reproductive years.

Period problems involve irregular menstrual flow frequency, duration, or volume. They are common in women with gynaecological disorders and can influence their emotional well-being, work ability, and quality of life. Four main period problems are menorrhagia, oligomenorrhea, polymenorrhea, and amenorrhoea. Women with menorrhagia have periods longer than seven days or flow more than 80 millilitres per cycle. Polymenorrhea occurs more than once every 21 days; oligomenorrhea happens less frequently but more commonly at intervals of more than 35 days [2]. After three months without a period, women with menstruation develop amenorrhoea. These difficulties can be caused by coagulopathies, thyroid dysfunction, uterine structural abnormalities, and hormonal imbalances.

Major menstrual abnormalities include AUB occurs when there is no pregnancy and the bleeding is prolonged, heavy, frequent, or irregular can affect childbearing women temporarily or permanently [3]. The International Federation of Gynaecology

and Obstetrics (FIGO)-standardised PALM-COEIN system classifies AUB by structural causes: polyps, adenomyoses, leiomyomas, malignancies, and hyperplasia, and non-structural causes: coagulopathy, ovarian dysfunction, endometrial issues, iatrogenic factors, and unclassified [4]. This classification improves diagnosis accuracy and creates successful treatment regimens.

AUB affects 10%–30% of perimenopausal women worldwide. Due to differences in research populations, healthcare accessibility, and diagnostic processes, prevalence statistics in India range from 15% to 25%. AUB causes gynaecological morbidity and many outpatient visits to obstetrics and gynaecology departments [5].

Studies across India show that menorrhagia is the most common clinical symptom, followed by polymenorrhea and metrorrhagia. In rural and semi-urban places like Muzaffarpur, Bihar, there is little data on menstrual difficulties and AUB frequency and symptoms.

The Anatomical, hormonal, and systemic variables interact complexly to cause AUB and menstrual issues. Structure changes, including uterine fibroids, polyps, adenomyosis, and endometrial hyperplasia, can cause abnormal bleeding [6]. Ovulatory dysfunction can be hormonal due to Polycystic Ovarian Syndrome (PCOS), thyroid disorders, hyperprolactinemia, or stress-induced hypothalamic suppression. Systemic reasons include medications, chronic disorders, and coagulation issues such as von Willebrand disease. Diagnoses must include a patient's medical history, laboratory testing, and imaging methods like ultrasonography because of the many probable reasons [7]. An early diagnosis and appropriate treatment are essential to avoid anaemia, infertility, and endometrial disease.

Bihar is lacking in region-specific data, despite the prevalence of AUB and periodic disorders in India. Some of the healthcare challenges faced by Bihar include the high prevalence of underreporting menstrual health symptoms, lack of access to gynaecological services, and lack of understanding about menstrual health. Many people live in rural areas of the state. The clinical profile and treatment outcomes of women in semi-urban districts like Muzaffarpur are unknown because most research has concentrated on metropolitan or tertiary care settings.

Socioeconomic status, food, and healthcare access may affect menstrual illnesses [8]. Researchers from Shree Krishna Medical College & Hospital in Muzaffarpur, Bihar, examined how doctors diagnosed and treated menstrual disorders and irregular uterine bleeding to address this gap. From 2023 to 2024, 100 AUB and menstruation cases will be researched. This study will examine case frequency, diagnosis, and therapy. Statistics should demonstrate the importance of regional healthcare, diagnosis and treatment accuracy, and disease frequency. Period disorders and AUB are major public health issues in Bihar and India, yet academics have ignored them. Medical records can reveal these disorders' symptoms and effects. It aims to improve reproductive healthcare for local women by providing a monthly anomaly detection and research-based treatment system.

Objectives

1. To determine how often and how gynaecology patients suffer menstrual issues and AUB.
2. To assess patient characteristics for diagnosis.

Materials and Methods

Study Design: A retrospective observational study examined diagnostic results, treatment effects, and clinical patterns of menstrual disorders and AUB. Without patient involvement, the retrospective technique revealed patterns and therapeutic outcomes in prior medical data. This design allowed a view into Bihar's tertiary healthcare facility's diagnosis and treatment procedures while ensuring ethical standards.

Study Setting: The study was conducted in the Department of Obstetrics and Gynecology, Shree Krishna Medical College & Hospital (SKMCH), Muzaffarpur, Bihar. SKMCH is well-suited to investigate menstrual disease symptoms and signs as a tertiary care teaching hospital that serves urban and rural areas. Hospital patient records include case sheets, test reports, and imaging findings, making data retrieval and analysis easy.

Study Period and Sample Size: The study comprised 100 women with menstrual issues or AUB from August 2023 to July 2024 based on hospital records. This sample size appropriately represented the number of childbearing women who visited the hospital during the study. Demographics, diagnoses, and treatments were collected from each patient.

Inclusion criteria

- Women aged 15 to 50 years presenting with menstrual irregularities or AUB were included.
- Only participants with complete medical records were selected to ensure data reliability.

Exclusion criteria

- Pregnancy-related bleeding (e.g., miscarriage or ectopic pregnancy)
- Post-menopausal bleeding
- Incomplete or missing case files
- These criteria were applied to maintain uniformity in the study

Data Collection: This study investigated medical records, lab results, and imaging tests. Demographics encompassed age, marital status, social standing, and parity. Clinical presentation data included the type, length, symptoms, and test results of the menstrual disruption. The thyroid profile, LH, FSH, prolactin levels, and endometrial biopsy/curettage were all used to make a diagnosis.

The evaluation employed pelvic ultrasound (USG); they used hysteroscopy, myomectomy, dilation, and curettage. They used hormone therapy, NSAIDs, antifibrinolytics, and iron supplements. They were able to relieve symptoms, stop them from coming back, and deal with the side effects of treatment. After creating a systematic data extraction form to ensure accurate data collection, two reviewers examined each submission for quality and consistency.

Variables and Data Analysis: Menstrual disorder type, age, parity, socioeconomic status, diagnostic instruments, treatment technique, and clinical outcome were important. Data was analysed with SPSS and Excel they summarised demographic and clinical data using mean, percentage, and standard deviation. T-tests or Chi-square tests were employed to assess the relationship between diagnostic categories and treatment results, with a significance level of $p < 0.05$.

Ethical Considerations: The SKMCH, Muzaffarpur Institutional Ethics Committee approved. Retrospective studies do not require patient contact. Pre-data submission anonymization was crucial to patient confidentiality during the research process. Ethical criteria from the Declaration of Helsinki ensured the study's transparency, honesty, and patient privacy.

Results

Demographic Profile: This retrospective study examined 100 women with AUB or menstrual issues. The majority of patients were between 31 and 40 years old (38%), followed by 21 to 30 (30%), 41 to 50 (22%), and 15 to 20 (10%). Participants in the study had an average age of 33.6 ± 7.2 years. 64% of women surveyed had many pregnancies, 26% had no children, and 10% had their first child at birth. A study found that 58% of women were from lower-class, 30% middle-class, and 12% upper-class homes. The high number of poor people in rural Bihar makes menstrual healthcare scarce and wait times considerable.

Table 1: Age-wise Distribution of Patients

Age Group (years)	Number of Patients	Percentage (%)
15–20	10	10%
21–30	30	30%
31–40	38	38%
41–50	22	22%
Total	**100**	**100%**

Clinical Presentation: Patients had many menstrual issues and AUB in this study. Four in ten patients had menorrhagia, 20% oligomenorrhea, 15% polymenorrhea, 12% metrorrhagia, 8% amenorrhoea, and 5% hypomenorrhea. Multiparous women between 31 and 40 had a higher prevalence of menorrhagia, although women under 30 were more likely to develop oligomenorrhea and amenorrhoea, which are usually connected to hormonal abnormalities or polycystic ovarian syndrome.

Table 2: Distribution of Cases by Type of Menstrual Disorder

Type of Disorder	Number of Cases	Percentage (%)
Menorrhagia	40	40%
Oligomenorrhea	20	20%
Polymenorrhea	15	15%
Metrorrhagia	12	12%
Amenorrhea	8	8%
Hypomenorrhea	5	5%
Total	**100**	**100%**

Diagnostic Findings: First-symptom patients were thoroughly diagnosed. All cases included pelvic USG, which revealed endometrial thickening (20%) and uterine fibroids (25%). The hormone tests showed 10% polycystic ovarian morphology and 12% thyroid dysfunction. Eight (26.7%) of thirty patients had proliferative endometrium, five (16.7%) secretory changes, ten (33.3%) simple hyperplasia, and seven (23.3%) polyps or atypical hyperplasia.

Table 3: Diagnostic Outcomes among Study Participants

Diagnostic Finding	Number of Cases	Percentage (%)
Uterine fibroids (on USG)	25	25%
Endometrial thickening	20	20%
Polycystic ovaries (USG)	10	10%
Thyroid dysfunction (TFT)	12	12%
Endometrial hyperplasia	10	10%
Endometrial polyp/atypia	7	7%
Normal findings	16	16%
Total	**100**	**100%**

Treatment Modalities: Treatment was tailored to the patient's age, reproductive decisions, and cause. In most instances (72%), handled medically; 28% requiring surgery. Iron supplementation was used by 12% of patients to treat anaemia, NSAIDs by 20%, and hormonal therapy by 40%. Ten percent had Dilatation and Curettage (D&C), twelve percent had hysterectomy, and six percent had endometrial ablation/myomectomy. Hysterectomy became standard when fibroids or hyperplasia therapies failed to reduce monthly bleeding.

Table 4: Distribution of Treatment Modalities and Response Rate

Treatment Type	Number of Patients	Response Rate (%)
Hormonal therapy	40	85%
NSAIDs	20	70%
Iron supplementation	12	90%
Dilatation and curettage	10	75%
Hysterectomy	12	95%
Endometrial ablation/Myomectomy	6	80%
Total	**100**	—

Treatment Outcomes: 82% of patients showed clinical improvement after treatment, including bleeding pattern normalisation and symptom relief. In the medically treated group, hormonal treatment had the highest response rate (85%) and NSAIDs the second (70%). The follow-up period indicated little recurrence, and hysterectomy had a 95% success rate. After conservative treatment for uterine hyperplasia or fibroids, 10% of patients had symptoms again. 6% of patients had pain from surgery and a temporary infection, but there were no major complications.

Statistical Summary: The research identified a significant correlation ($p < 0.05$) between the type of menstrual disorder and treatment outcomes. Surgical treatment was better for structural abnormalities like fibroids or endometrial hyperplasia, while medicinal treatment was best for hormonal or functional difficulties. Multiparous women over 30 had greater fibroids and menorrhagia.

Menorrhagia is still the most prevalent menstrual ailment, and most patients respond well to medical therapy. However, structural defects benefit more after surgery. Results show that aetiology- and patient-specific treatment regimens can improve clinical outcomes for Bihar women with menstrual issues and AUB.

Discussion

This retrospective study examined 100 women's menstrual issues and AUB symptoms, diagnosis, and treatment outcomes at Shree Krishna Medical College & Hospital in Muzaffarpur over a year. This study supports earlier worldwide and national studies indicating menstrual irregularities are still a serious issue in gynaecology, especially for women in developing countries. In 40% of instances, menorrhagia was the most frequent menstrual symptom. Women with AUB most often complained of menorrhagia, according to studies in [9,10]. Global research shows that 30–50% of women see a gynaecologist for heavy menstruation. In this group, uterine fibroids, endometrial hyperplasia, and hormone dysregulation were common, which may explain menorrhagia. Hormonal disorders such as thyroid dysfunction and polycystic ovarian morphology were common non-structural reasons, while uterine fibroids and endometrial thickness were structural causes in 25% of cases [11]. This study supports the FIGO PALM-COEIN classification of structural and non-structural AUB causes. Other South Asian studies have found similar etiological distributions, highlighting structural and hormonal factors affecting reproductive-age women. Given the high incidence of fibroids and endometrial abnormalities in this study, delayed diagnosis and limited access

to early gynaecological screening may cause disease development before hospitalisation.

The diagnostic suite that diagnosed most underlying disorders included clinical examination, ultrasonography, and hormonal testing. Pelvic ultrasonography revealed uterine and ovarian anatomy, which was useful [12]. However, the study notes that not all patients had access to an endometrial sample and hysteroscopy, which may have hampered examination. This constraint emphasises the need for better diagnostics in semi-urban hospitals. Medical management worked for 82% of patients, although hormonal therapy worked greatest. The global literature emphasises NSAIDs and hormonal therapy as initial AUB treatments [13]. Southeast Asian and Indian research found that hysterectomy improved outcomes for patients with fibroids, adenomyosis, or refractory menorrhagia [14]. This study showed that limited resources can yield good results by carefully selecting patients and following treatment protocols.

Regional factors may influence the patterns of menstrual disorders and the responses to treatment [15]. Poor nutrition, high anaemia rates, early marriage, many pregnancies, and delayed treatment can increase menstrual abnormalities in semi-urban Bihar. Menstrual health is stigmatised, thus, women are less likely to report symptoms or seek medical assistance, which can progress to more advanced presentations. A poor diet and lack of exercise can worsen hormonal abnormalities, especially in younger women.

Clinically, the study's findings concern semi-urban and rural gynaecology. They emphasise the importance of early screening, health education, menstrual hygiene education, and affordable diagnostic services. Initial detection of menstrual irregularities by primary healthcare facilities can stop the disease and prevent invasive procedures. There are certain limitations to this research. The dependability and thoroughness of hospital records can be it that it is based on past events.

The study had just 100 examples; therefore, the results cannot be generalized. Due to the hospital setting, the numbers may overstate serious cases and understate community-managed issues. The study provides baseline data for prospective and population-based studies on menstrual disorders and AUB in Bihar; however, these limitations.

Conclusion

Menorrhagia is the most frequent monthly ailment, and uterine fibroids and hormone imbalances cause most abnormal uterine bleeding, according to this review. Most patients responded well to medical treatment, notably hormonal therapy, but surgical procedures were reserved for patients who were unresponsive and had a high success rate. According to the study, early diagnosis, etiological investigation, and individualised therapeutic planning can improve menstrual results. Delayed healthcare seeking, socioeconomic restrictions, and insufficient diagnostic resources hinder semi-urban Bihar management. Awareness initiatives, diagnostic facilities, and primary care menstrual health screenings can improve reproductive health services. Future prospective and community-based research is encouraged to corroborate these findings and develop targeted AUB treatments for early detection and thorough care.

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