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Disease Pattern and Drug Utilization Evaluation of Abnormal Uterine Bleeding in a Tertiary Care Teaching Hospital



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ABSTRACT

Aim: Menstrual disorders are the most common gynecological conditions in the general populations. Abnormal Uterine Bleeding (AUB) mean both heavy and irregular menstrual bleeding, and many patients experience the combination of these symptoms The purpose of this study is to evaluate drug utilization and disease pattern of AUB. **Materials and Methods:** For three months, the Navodaya Medical College Hospital and Research Centre was the site of a prospective observational study. Data was collected from patient's case file during the study period and entered into a specially designed data entry form. 50 samples were gathered and recorded. **Results:** 50 patient prescriptions in all were looked over. Ages 41-50years old accounted for the greatest number of patients (46%), many were multiparous and married. Of the 357 medications prescribed, 113 were antibiotics. There were 30.97% antibiotic prescriptions on average. Metronidazole was commonly prescribed antibiotic. Maximum patients were diagnosed with leiomyoma (30%) and our study witnessed 22% patients' hemoglobin level lesser than 7g/dL. 84.59% of prescription medications came from EML and 10.65% of drugs by generic name. Injections were commonly prescribed dosage form 71.78%. **Conclusion:** A high proportion of antibiotics and fewer medications from world health organization-essential medicine list (WHO- EML). Concerns were also raised about brand-name prescriptions.



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INTRODUCTION

Menstrual disorders are the most common gynecological conditions in the general populations. Abnormal Uterine Bleeding (AUB) mean both heavy and irregular menstrual bleeding, and many patients experience the combination of these symptoms. The substantial impact of abnormal uterine bleeding lies not only in its prevalence, but its effect the quality of life, associated loss of productivity, and major healthcare cost.¹

Palm-Coein is a useful acronym provided by the International Federation of Obstetrics and Gynecology (FIGO) to classify the underlying etiologies of abnormal uterine bleeding. The first portion, PALM, describes structural issue. The second portion COEI, describes non-structural issue. The N for not otherwise leiomyoma, M for malignancy and hyperplasia, C for coagulopathy, O for ovulatory dysfunction, E for endometrial disorder, I for iatrogenic and N for not otherwise classified.²

The prevalence of AUB is about 9%-30% in pre-menopausal women, 50% in peri-menopausal women.³ In India, the prevalence is around 17.9% in 2015.⁴ Medical management is the first-line treatment which includes combined oral contraceptives (COCS), progesterone, levonorgestrel, intra-uterine device system (LNG-IUS), tranexamic acid, non-steroidal anti-inflammatory drugs (NSAIDs), ormeloxifene, and gonadotropin-releasing hormones (GnRH analogs).⁵

It serves to enhance the therapeutic outcomes, reduce inappropriate pharmacy expenditures, thus to reduce overall healthcare costs and improve the quality of patient's health-care.⁷

Medical management has significantly reduced the need for surgical interventions in AUB. Knowledge of commonly used drugs in the medical management of AUB allows, improved patient counselling, informed decision making, and reduced social and economic burden for both patients and healthcare systems.⁸ The studies with medical management of AUB and its association with menstrual blood loss were limited. Hence, the present study was planned to evaluate the disease pattern and drug utilization in AUB at Navodaya medical college hospital and research center, Raichur.

The aim and objectives of these study is to study the disease pattern of Abnormal uterine bleeding in reproductive age women., to analyze the drug utilization evaluation of AUB at NMCH&RC, Raichur.

MATERIALS AND METHODS:

We conducted a prospective observational study carried out for a period of 3 months in Navodaya Medical College Hospital and Research Centre (NMCH & RC) Raichur. The data were collected from the patient medical record book. The data is entered in the data entry form which is specially designed for the study. The information was entered in the data entry form. Then all this data was analyzed using suitable statistics and the result was formulated.

Inclusion Criteria:

- Patients admitted in Obstetrics and gynecology department, diagnosed with abnormal uterine bleeding.

Exclusion Criteria:

- Lactating and un-cooperative women.

Ethical consideration

This study was approved by the Research and the Institutional Human Ethics committee (Study number EC/02/2024) of our Medical College and Hospital. The data was obtained from the patient medical record. Anonymity and confidentiality for study participants were always upheld. The research was carried out adhering to the norms of Good Clinical Practice.

Statistical Analysis:

Descriptive statistics, such as total numbers, mean, frequency, and percentage, were used to analyse the data from the data entry form.

RESULTS:

Out of the 55 prescriptions that were examined, 30% (15) patients had a diagnosis of Leiomyoma, 24% (12) patients had a diagnosis of polyp, and unclassified problems came next. 22% (11), adenomyosis 14% (7) and followed by malignancy 10% (5). This is seen in Figure 1.

The age distribution of the patients' demographic profile was plotted. 2%(1) patient in the 11–20 years age group, 10% (5) patients in the 21–30 years age group, 36% (18) patients in

the 31–40 years age group, 46% (23) patients in the 41-50 years age group and in 51–60 years age group 6% (3) patients. The results are shown in Table 1.

Out of 50 AUB patients, 8% (4) were found to be nulliparous, 86% (43) were found to be multiparous and 6% (3) were grand multiparous.

Anemia is one of the complications of AUB due to heavy blood loss. In our study we witnessed 22% (11) patients with hemoglobin value less than 7 g/dL, 34% (17) patients with moderate hemoglobin level between 7-9.9 g/dL, 18(36%) patients with mild hemoglobin level between 10-11.9% and 8% (4) patients with normal hemoglobin level.

A total of 357 drugs were prescribed out of which 30.53% (113) antibiotics were prescribed followed by supplements (iron/cal) 19.88% (71), Antacids 15.40% (55), antifibrinolytics 9.24% (32), NSAID`s 8.40% (30), antiemetics 6.16% (27), analgesics 3.92% (14), hormonal therapy 2.52% (9), and Hypnotics 1.68% (6). This is depicted in Table 2.

Analysis of 113 antimicrobials prescribed, the antimicrobials from different classification were metronidazole 30.97% (35), amoxicillin and pot clavulanate 18.58% (21), ciprofloxacin 8.84% (10), Ceftriaxone 7.96% (9), Nitrofurantoin 7.07% (8), Albendazole 7.07% (8) Cefoperazone & sulbactam 6.19% (7), Doxycycline 3.53% (4), Piperacillin & tazobactam 3.53% (4), Meropenem 3.53% (4) and Ampicillin 2.65% (3). The results are shown in Figure 2.

WHO core drug indicators used to study prescription:

Average number of drugs per prescription- 7.16%, percentage of encounters with an antibiotic prescription- 31.65%, percentage of drugs prescribed by generic name-10.62%, percentage of drugs prescribed from WHO essential medicine list-84.59%, percentage of encounters with an injection prescribed- 71.78%. The results are shown in Table 3.s.

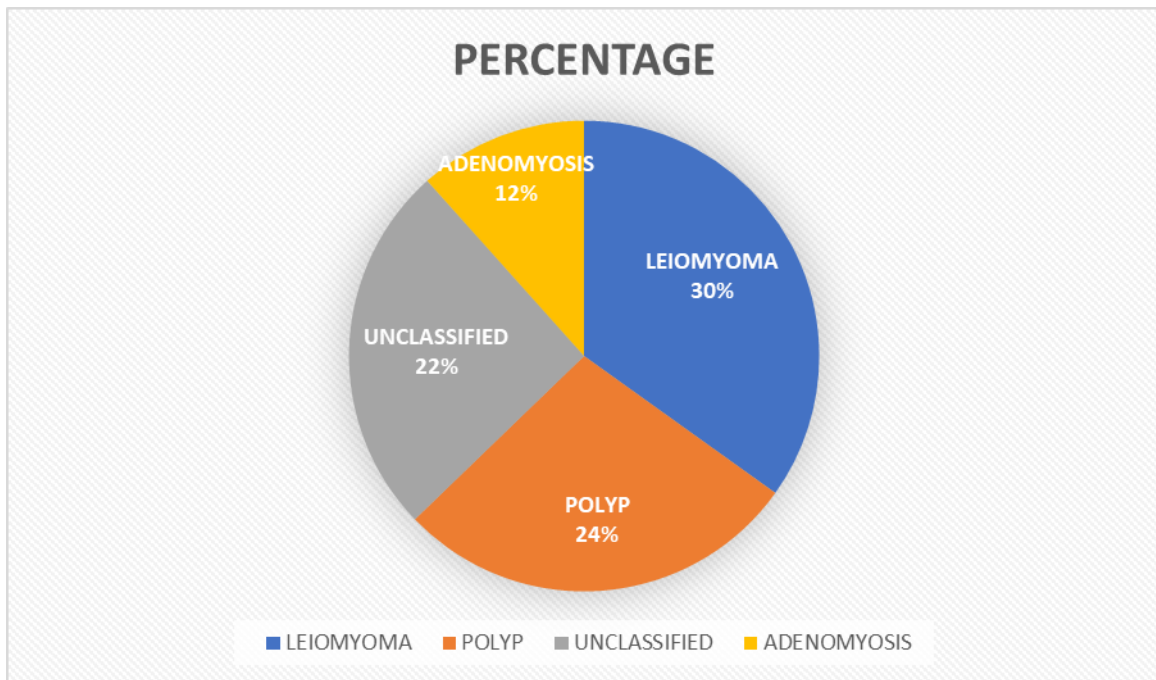


Figure 1: Pattern of disease. (n=50)

Table 1: Age wise distribution of disease.

Age (years)	No. of patients	Percentage (%)
11-20	1	2
21-30	5	10
31-40	18	36
41-50	23	46
51-60	3	6

Table 2: Class of drugs prescribed (N=357)

Class of drugs	Number of drugs	Percentage (%)
Antibiotics	113	30.53
Supplements (Iron/cal)	71	19.88
Antacid	55	15.40
Antifibrinolytics	32	9.24
NSAIDs	30	8.40
Antiemetics	27	6.16
Analgesics	14	3.92
Hormonal therapy	9	2.52
Hypnotics	6	1.68
TOTAL	357	100

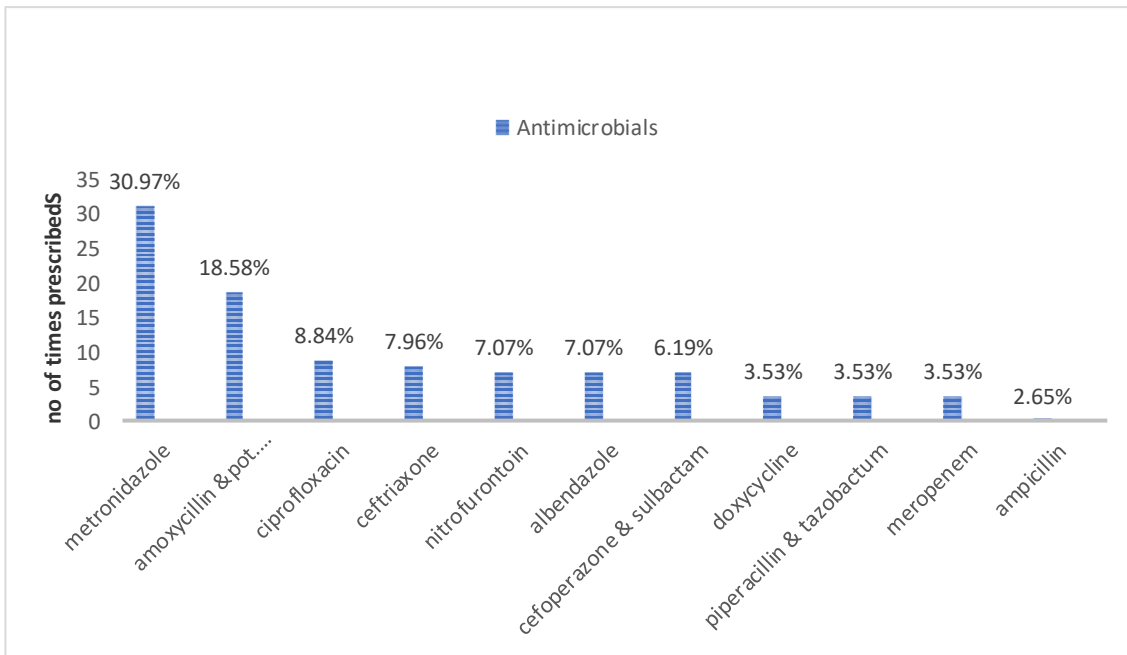


Figure 2: Commonly prescribed antimicrobials.

Table 3: WHO prescribing indicators.

Prescribing indicators	Values obtained (%)	WHO Standars (%)
Average number of drugs per prescription	7.16	1.6-4.8
Percentage of drugs prescribed in generic	10.62	100
Number of drugs prescribed from WHO essential medicine list	84.59	100
Percentage of prescription with anti-biotic	30.53	20-26.8
Percentage of prescriptions with injection	71.78	13.4-24.1

DISCUSSION

Drug utilization evaluation (DUE) is defined as an authorized, structured, ongoing review of prescribing, dispensing and use of medicines. DUE encompasses a drug review against pre-determined criteria that results in changes to drug therapy, when these criteria are not met. It involves a comprehensive review of patient's prescription and medication data before, during and after dispensing to ensure appropriate medications decision making and patients positive outcome.⁶

The study was conducted with 50 AUB patients. The patients were selected upon the fulfillment of inclusion and exclusion criteria. A statistical analysis showed that out of 50 AUB patients 30% (15 patients) had a diagnosis of Leiomyoma, AUB was common in the reproductive age groups 21 to 50 years. Out of 50 AUB patients 43(86%) were found to be multiparous and married.

Anemia is one of the complications of AUB due to heavy blood loss. In our study we witnessed 22% (11) patients with hemoglobin value less than 7 g/dL, 34% (17) patients with moderate hemoglobin level between 7-9.9 g/dL, 36% (18) patients with mild hemoglobin level between 10-11.9% and 8% (4) patients with normal hemoglobin level.

A total of 357 drugs were prescribed among which most of them were antibiotics, a total no. Of 30.53% (113). Antibiotics are the most prescribed medications in the study for prophylaxis and / to treat hospital acquired infections and surgical site infections. Metronidazole (30.97%), followed by supplements like ferrous sulphate, folic acid, and vitamins.

Tranexamic acid was most commonly prescribed antifibrinolytics, next to tranexamic acid, NSAID's frequently used medication to treat pain and it's also additional benefit such as it can control bleeding by its action of prostaglandins.

CONCLUSION

Based on many parameters and WHO core prescribing indicators the prescribing pattern at the institution is satisfactory especially, with complete drug information for patients in the prescription. This study came across with some errors such as a high percentage of antibiotics, and lower drugs from EML. Moreover, the prescription of drugs by brand name

was a matter of concern. This can be addressed through proper sensitization of clinicians in the art of rational prescribing.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

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