



TO EVALUATE DRUG UTILIZATION PATTERN IN ABNORMAL UTERINE BLEEDING IN GYNECOLOGY DEPARTMENT OF A TEACHING HOSPITAL

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ABSTRACT

Abnormal uterine bleeding (AUB) is a common gynecological disorder among women of reproductive age, interfering with their day-by-day activity. The aim of the study was drug utilization patterns in abnormal uterine bleeding in the Obstetrics and Gynecology department at the Integral Institute of Medical Sciences and Research. The main objectives are to assess and monitor treatment patterns and cost of treatment in AUB at IIMS&R. This prospective observational study was carried out for six months, in which 100 prescriptions were selected for study by considering the inclusion and exclusion criteria. In 6 months of the study, a total of 100 no. of prescriptions were observed. Patients between the age group of 31-40 years were found to have a higher prevalence of disease. 37% of patients were found to have attained menarche at the age of 13. 72% of patients were found to be multiparous, 15% were found to be nulliparous and 13% were grand multiparous. The most common diagnostic procedure that was performed is USG, Thyroid for 80% of patients. 65% of patients reported with irregular heavy menses. Around 8% of patients were found to be associated with Urinary tract infections. 20% of patients were found to be anemic. 69% of patients received a blood transfusion and 53% were found to have been prescribed supplements along with this, 19% of the patients were given hormonal therapy. The most commonly prescribed antibiotic was Metronidazole. 28% of patients were prescribed with Tranexa. Oral route of administration was preferred in 86% of patients. The most commonly prescribed drug was found to be Bevon for 38% of patients. The study concludes that 12 different kinds of medication were found to be prescribed including Multivitamins, Anti-fibrinolytics, 2nd generation progesterone, and anti-androgen drugs. The age range of 31 to 40 years was found to be most prevalent among 100 AUB patients. USG, Thyroid was found to be the most frequently used diagnostic procedure for confirmation of AUB. The most commonly used drug was Bevon with Tranexa. UTI was discovered as the most prevalent comorbidity among all subjects. Anemia was found to be the major complication. The predominance of Metronidazole as the most commonly prescribed antibiotic shows its effectiveness in preventing infection.

KEYWORDS: Abnormal uterine bleeding, Obstetrics and Gynecology, Anaemia, Anti-fibrinolytics, Tranexa.

INTRODUCTION

Drug Utilization also referred as Drug Utilization Review, is a system of regular, systematic, and criteria-based medication evaluation that ensures the appropriate use of medications. (Gangwar *et al.*, 2023). It is a strategy for gathering information to identify the issues associated with drug use, and if properly developed, it also provides a mechanism to address the problem, turning it into a factor in reasonable drug use. As a quality control system, it consists of remedial actions, prescriber reviews, and additional evaluations (Singh *et al.*, 2018). Menstrual disorder are the common indication for medical visits among women of reproductive age and heavy menstrual bleeding affects up to 30% of women

throughout their reproductive lifetime (Fraser *et al.*, 2011). These complaints could have a considerable negative impact on one's quality of life, necessitate time away from work, necessitating medical intervention, such as a hysterectomy, and eventually have a significant negative impact on the healthcare system (Mahapatra *et al.*, 2015). Abnormal uterine bleeding (AUB) is defined as bleeding from the uterine corpus that is abnormal in regularity, volume, frequency or duration and occurs in the absence of pregnancy and when has been present for majority of the last 6 months then it is chronic AUB. Acute AUB is defined as an episode of bleeding that, in clinician opinion, is of sufficient quantity requiring immediate intervention to minimize/prevent further

blood loss (Munro *et al.*, 2011 & Liu Z *et al.*, 2007). It is usually associated with discomfort, anxiety, iron deficiency anemia, decreased work productivity and income, negative impact on relationship with partner and many result in surgical intervention including hysterectomy (Millar *et al.*, 2001). AUB is reported to occur as 9-14% women between menarche and menopause. The prevalence increases with age, reaching 24% in women aged 36-40 and varies in each country. In India the reported prevalence of AUB is around 17.9%. (Harlow *et al.*, 2004 & Sharma *et al.*, 2013). FIGO AUB systems are universally accepted for normal and abnormal uterine bleeding symptoms and classification of causes known by the acronym PALM- COEIN (polyp, adenomyosis, leiomyoma, malignancy and hyperplasia; coagulopathy, ovulatory dysfunction, endometrial, iatrogenic and not otherwise classified) of AUB in the reproductive years. (Munro *et al.*, 2018). The lack of knowledge and awareness among women and provider about various treatment alternatives is of major concern. Treatment recommendations should focus on reducing the quantity of blood loss in addition to supplementing iron (Naqvi *et al.*, 2023). So in this present study and attempt was made to study and assess drug utilization pattern in abnormal uterine bleeding and to promote improved treatment guidelines in a tertiary care hospital (Naqvi *et al.*, 2023)

METHODS

The study was carried out for 6 months in gynae. and obstetric department at Integral Medical Institute of Sciences and Research Hospital. Study was conducted with over 100 patients during study period, who were attending and willing to participate from the obs and gyne wards (OPD/IPD), subjects were enrolled based on inclusion and exclusion criteria. The study observed the drug utilization pattern received by women who were in age group between 18- 50 year, with pre and postmenopausal bleeding, girls with precocious puberty, malignancy with atypia on histopathology, fibroid >3 cm, endometrial polyp >1 mm. The study involves the collection of all relevant data from cases (Patient profile and demographics, disease-associated comorbidities, drug dose and frequency prescribed). The collected data was entered in separate excel sheets and results were concluded according to the respective parameter (Ahmad *et al.*, 2023).

RESULTS

Parameter 1: Average age range of patients

Patients between the age group of 31-40 were found to have higher prevalence of the disease (Table 5.1 and Figure 5.1).

Table 5.1: Age Range of AUB Patient.

Age Range	No of Patients
10-20	5
21-30	34
31-40	37
41-50	20
>50	4

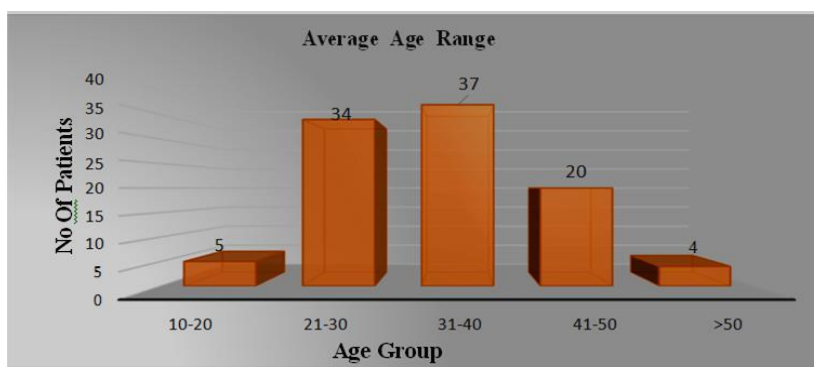


Fig. 5.1: Age Range of AUB Patient.

Parameter 2: Age of Menarche

Among 100 AUB patients, 37 patients attained menarche at the age of 13 which is the highest among all the age of menarche. (Table 5.2 and Figure 5.2).

Table 5.2: Age of Menarche.

Age of Menarche	No. of Patients
11	15
12	28
13	37

14	9
15	11

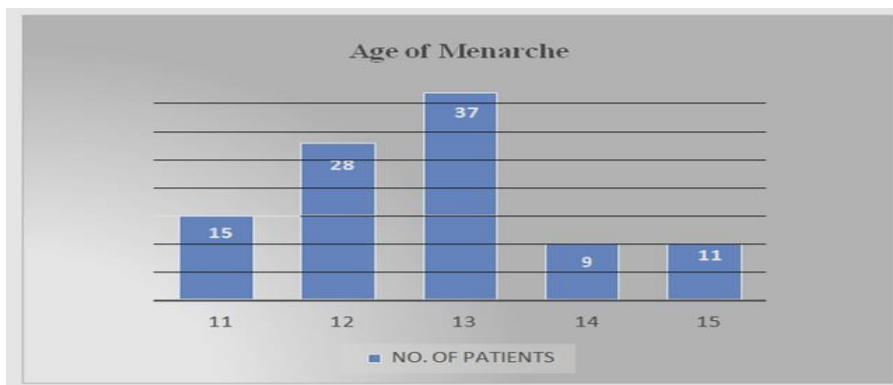


Fig. 5.2: Age of Menarche.

Parameter 3: Parity

Out of 100 AUB patients, 15 were found to be Nulliparous, 72 were found to be Multiparous, 13 were Grand Multiparous. (Table 5.3 and Figure 5.3)

Table 5.3: Parity.

Parity	No. of Patients
Nulliparous	15
Multiparous	72
Grand multiparous	13

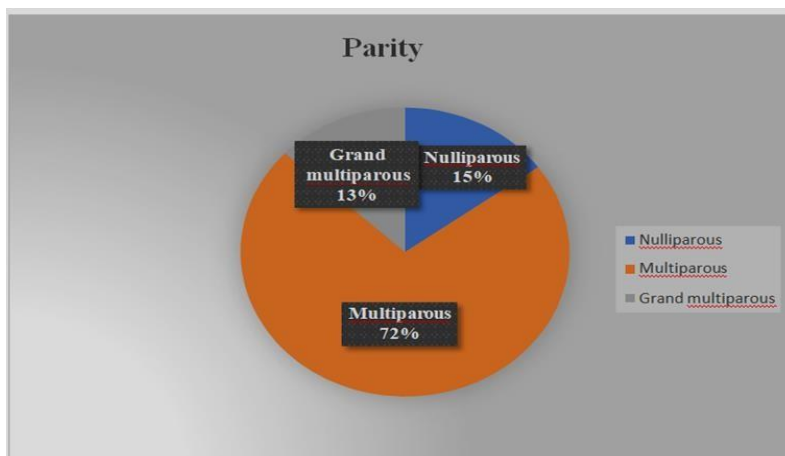


Fig. 5.3: Parity.

Parameter 4: Diagnostic Procedure

Among 100 AUB patients, the most common diagnostic procedure used was found to be USG, Thyroid. (Table 5.4 and Figure 5.4).

Table 5.4: Commonly used Diagnostic procedure for AUB.

Diagnostic Procedure	No. of Patients
USG, Thyroid	80
Biopsy	70
USG	20
Local examination	32

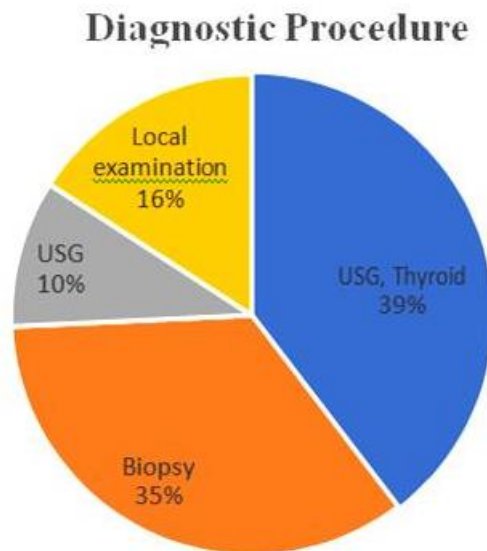


Fig. 5.4: Commonly used Diagnostic Procedure for AUB.

Parameter 5: Menstrual irregularities

Among the 100 AUB patients, most of the patients are coming with the irregularity Heavy Menses. (Table 5.5 and Figure 5.5).

Table 5.5: Menstrual Irregularity in AUB patients.

Menstrual irregularities	No. of Patients
Frequent menses	5
Less frequent menses	8
Amenorrhea	12
Heavy menses	65
Heavy and frequent menses	10

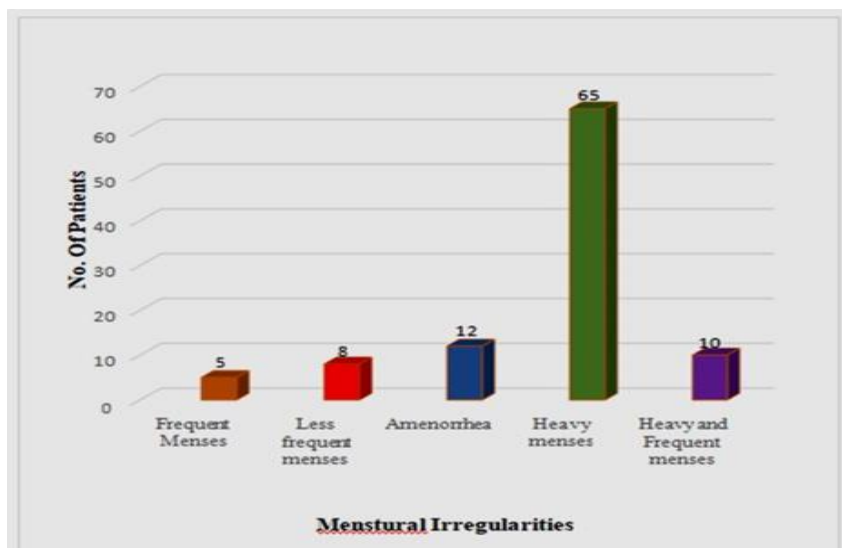


Fig. 5.5: Menstrual Irregularity in AUB patients.

Parameter 6: Complaints

Among 100 AUB patients, patient with heavy menstrual bleeding (48) was more among all the complaints. (Table 5.6 and Figure 5.6).

Table 5.6: Complaints.

Complaints	No. of Patients
Heavy Menstrual Bleeding	48
Abdominal pain	35
Dysmenorrhea	10
Backache	7

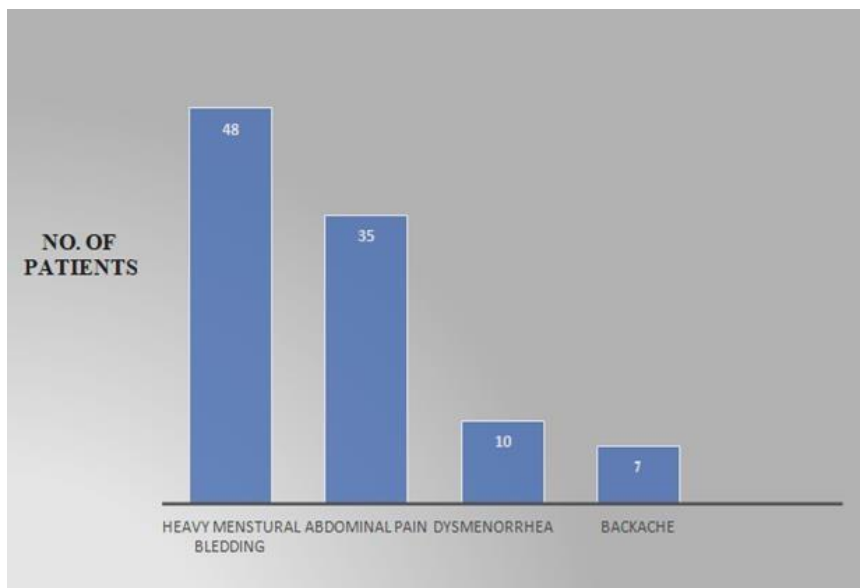


Fig. 5.6: Common Complaints of AUB patients.

Parameter 7: Types of Comorbidities

Among 100 AUB patients, around 8 patient were found to be associated with Uterine Tract Infection followed by

hypertension, diabetes mellitus and uterine cyst. (Table 5.7 And Figure5.7)

Types Of Co-Morbidities	No. of Patients
Hypertension	6
Tuberculosis	3
Uterine Cyst	4
Diabetes Mellitus	4
Thyroid	3
Urinary Tract Infection	8

Parameter 8: Complication of AUB

Among 100 AUB patients, 20% of the patients were found to be Anemic.

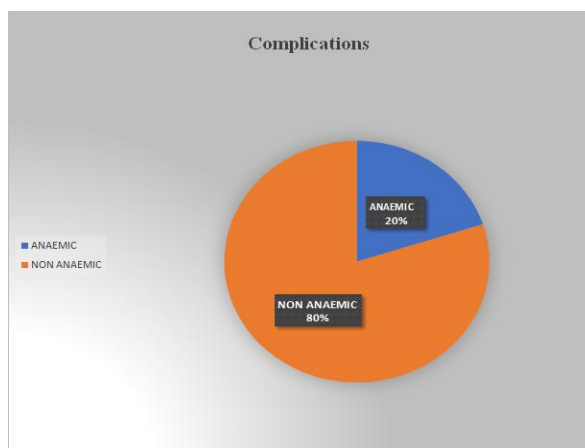


Fig. 5.7: Complication of AUB.

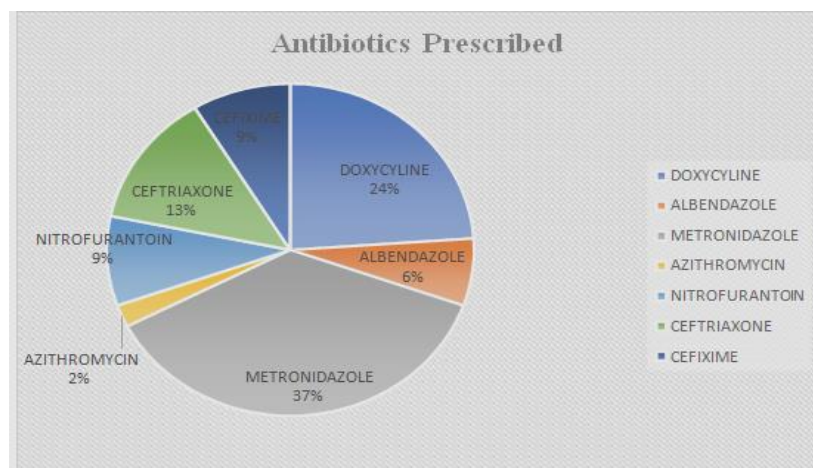
Parameter 9: Prescribing Pattern.

S.No	Management	Provided (No. of Patient)	Not Provided (No. of Patient)
Correction of Anemia			
1	Blood Transfusion	69	31
2	Supplements(T.IFA/B.C/Vit C/Calcium)	53	47
To Control Infection			
3	Antibiotic	43	57
Conservative Therapy			
4	Homonal therapy	19	81
5	Non Homonal therapy	83	17

A) Correction of Anemia**Table 5.9a: Correction of anemia.**

Treatment	Provided	Not Provided
Blood Transfusion	69	31
Supplements	53	47

B) To Control Infection: In the below table the data is showing that the most of the patient were prescribed with Metronidazole. (Graph 5.9b).

**Graph 5.9b: Commonly used antibiotics in AUB.**

C) Conservative therapy: In the below table the data is showing that the most number of patient were prescribed with Tranexa.

Table 5.9c: Conservative Therapy for AUB.

Drugs Prescribed	Generic name	Dose	No. of Patient
Tranexa	Tranexamic acid	1300 mg	28
Regesteron	Norethisterone	5mg	19
Krimson 35	Cyproterone and Ethinyl estradiol	1 tablet for 21days of monthly cycle	1
Crina NCR	Progesterone	10 mg	8
Miso 200	Misoprostol	200 mcg	1
Mesoprost	Misoprostol	200 mcg	15
Meptrate	Medroxyprogesterone acetate	10 mg	17
Trapic MF	Tranexamic acid	100 mg oral	12

Texakind	Tranexamic acid	500mg	10
Tranexa, Regestron	Tranexamic acid, Norethisterone		5
Regestron, Texakind	Norethisterone, Tranexamic acid		3
Vaginal pessaries			3

Parameter 10: Route of Administration

Among 100 prescription the most prescribed route was found to be Oral. (Figure 5.10).

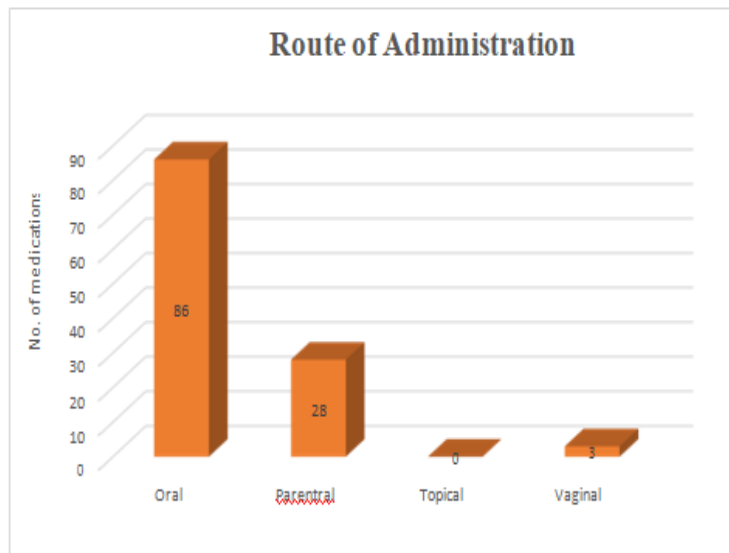


Fig. 5.10: Commonly used Route of Administration of drugs in AUB.

Parameter 11- Medications prescribed

The commonly prescribed medication among 100 prescription was found to be Bevon followed by Trenexa and Vetrifer vz. (Figure5.1)

Table 5.10: Medication Prescribed among 100 patients.

Drug Prescribed	No. Of Patients
Krimson 3.5	1
Crina NCR	8
Mesoprost	15
Rabemac	05
Telma AM	04
Telvas AM	04
Metronidazole	17
Paridox	05
Metrogyl	05
Taxim-O	03
Zerodol P	02
Shelcal	25
Becasuol	03
Emeset	03
Dansomet DSR	02
Fremax	02
Dexorange	02
Meprate	17
Alkasol	03
Limcee	02

Bandy Plus	05
Doxy	11
Pan 40	08
Monocef	06
Texakind	10
Vertifer-BZ	18
Tranexa	28
Regestron	10
Bevon	38
Trapic Mf	12
Imbical	06
Rubired Z	04

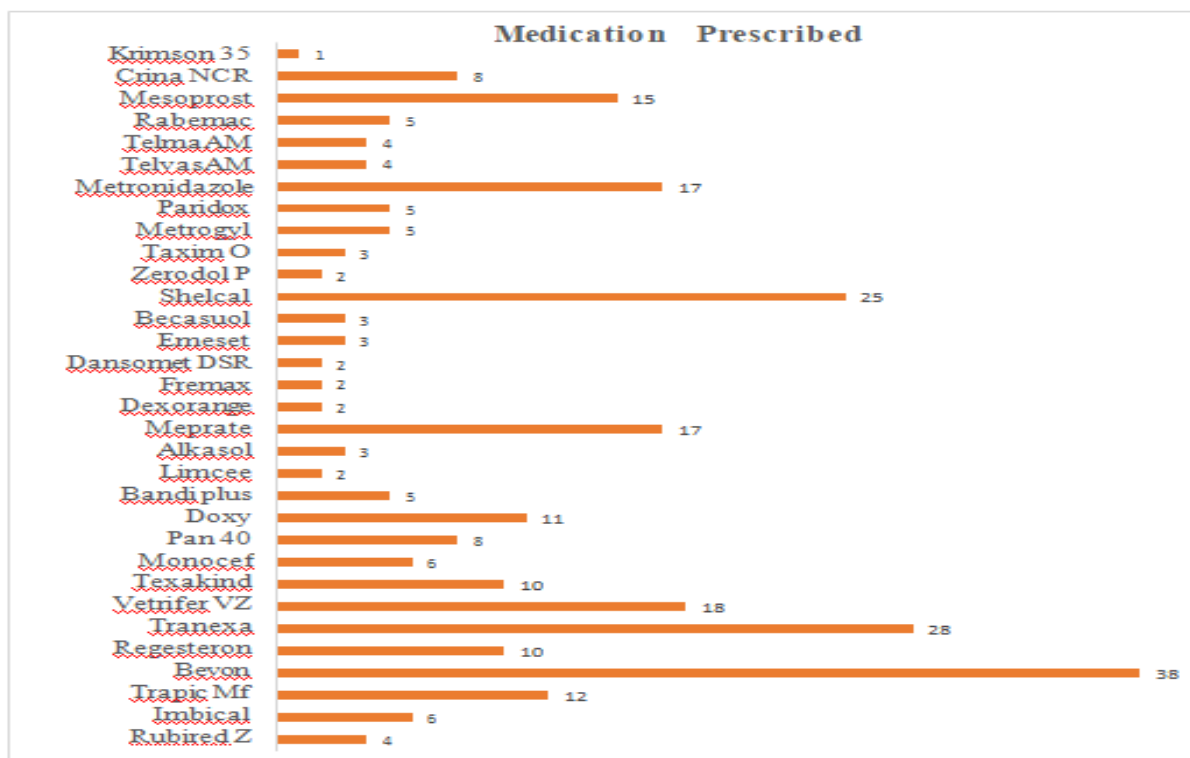


Fig. 5.11: Commonly prescribed medications in AUB.

DISCUSSION

A total of 100 prescriptions were recorded, indicating the drug utilization pattern in patients with Abnormal Uterine Bleeding (AUB) based on the findings of the study, which was conducted over a period of six months. In terms of demographics, the age range of patients in the current study was between 31 and 40 years (Table 5.1). Most patients experienced menarche at the age of 13 years, observed particularly in 37% of the total subjects in this study (Table 5.2). Regarding parity, out of 100 AUB patients, 15% were nulliparous (Table 5.3), 72% were multiparous, and 13% were grand multiparous.

In terms of complaints, 48% of total patients complained of heavy menstrual bleeding, 35% of abdominal pain, 10% of dysmenorrhea, and 7% of backache. Anemia was observed in 20% of total subjects as a complication. Alongside complications, the study noted prescribing patterns where 69% of the total population received

blood transfusions for anemia correction, and 53% were prescribed supplements for the same (Table 5.9).

Regarding prescribed conservative therapy, hormonal therapy was administered to only 19% of patients (Table 5.9a). Among prescribed antibiotics, Metronidazole was most commonly given to patients (17% of total subjects), followed by Doxycycline (11%), Ceftriaxone (6%), Cefixime (4%), and Albendazole (3%) (Table 5.9b).

The diagnostic procedures used most frequently for confirming AUB in the study were ultrasound (39% of total subjects), biopsy (35%), local examination (16%), and thyroid tests (10%) (Table 5.4).

Medications were predominantly administered orally to 86% of total subjects, with 28% receiving parenteral administration and 3% vaginal administration. The most

commonly prescribed medications were Bevon (38% of total subjects) and Tranexa (28%) (Tables 5.10 and 5.11).

Overall, there are both similarities and contrasts between the findings of this study and those of previous articles in terms of patient demographics, menarche age, parity, complaints, complications, and drug usage trends. These differences may be attributed to variations in study design, subject characteristics, or regional factors (Ahmad *et al.*, 2023).

CONCLUSION

Our study provides valuable insights into the drug utilization pattern for abnormal uterine bleeding. The prevalence of Tranexa in the prescribed medications, along with Regestrone, Meprate, Traptic MF, Texakind, and II-generation progesterone Crina NCR, reflects the multifaceted approach and highlights the importance of utilizing different types of drugs. The predominance of Metronidazole as the most commonly prescribed antibiotic shows its effectiveness in preventing infection. The identification of specific age groups, menarche age, and complaints supports the need for personalized treatment strategies. These findings contribute to understanding the pharmacotherapy involved in abnormal uterine bleeding and guide clinicians in making better decisions to optimize patient care.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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