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"STUDY OF DRUG PRESCRIPTION PATTERN IN PATIENTS ATTENDING GYNECOLOGY OPD AT TERTIARY CARE HOSPITAL OF WESTERN RAJASTHAN, INDIA"

Obstetrics & Gynaecology

Dr Deepika Panwar* — 3rd year resident, Department of Obstetrics and Gynecology, Umaid Hospital, Dr S.N. Medical college and hospital, Jodhpur, India. *Corresponding Author

Dr BS Jodha — Sr.Professor and Unit Head, Department of Obstetrics and Gynecology, Umaid Hospital, Dr S.N. Medical college and hospital, Jodhpur, India.

Dr Santosh khokher — Associate Professor, Department of Obstetrics and Gynecology, Umaid Hospital, Dr S.N. Medical college and hospital, Jodhpur, India.

ABSTRACT

Background: With increasing awareness the flow of patients visiting gynecology outpatient department has increased. Drugs prescribed in gynecology are one of the most utilized drugs in India, however they are least studied with respect to drug utilization. Thus, present study was planned to analyze drug prescription pattern in Gynecology OPD in a tertiary care hospital. **Methods:** A retrospective, cross sectional, observational study of prescriptions in Gynecology OPD of Umaid Hospital DR SN Medical College Jodhpur. Data was obtained from medical record database of patients that attended Gynecology OPD from Jan 2021 to June 2021 over a period of six months. Prescription slips of patients were screened as per inclusion and exclusion criteria and 300 prescriptions were randomly selected and analyzed. **Results:** The mean age of patients was 20.5±9.05 years and common age of presentation was >18-30 years. In infective cases, vaginal discharge (12.66%) was common, and in non-infective cases, AUB (9.66%) was common. The average number of drugs per prescription was 3.2. In drug category, minerals (39.76%) were most commonly prescribed, followed by antimicrobials (18.25%), and NSAIDs (8.60%). Polypharmacy was observed in 100% of the prescriptions. **Conclusions:** In the present study all of the drugs prescribed were generic which were from the essential medical list of NLEM and WHO. The average number of drugs per prescription was higher than that recommended by WHO which indicates deviation from rational prescribing by the prescribers.

KEYWORDS

Drug utilization, Gynecology, Outpatient department

INTRODUCTION

Drug utilization is defined by the WHO as the "marketing, distribution, prescription, and use of drugs in the society, with special emphasis on the resulting medical, social, and economic consequences[1]. With the increasing awareness, the number of patients visiting Gynecology OPD has increased.

In low income countries like India, only a few comprehensive community based studies have been performed that were able to quantify the burden of gynecological diseases.

Time to time evaluation of prescription is necessary to increase the therapeutic efficacy, decrease adverse effects and to provide feedback to the prescribers. Inappropriate and irrational use of drug tend to decrease the quality of drug therapy, less therapeutic response, treatment cost escalation along with increases risk of adverse drug reaction and drug resistance[2-5].

As per data by All India Origin Chemists and Distributors -Advanced Working, Action and Correction System (AIOCD-AWACS) market research firm, Gynecology drugs are one of the strong selling drugs in pharmaceutical market; they rank as the 8th in all the super groups with 16.4% growth in the month of February 2012.[6] However, they are the least studied drugs in terms of drug utilization studies.

The objectives of the present study were:

To study the drug prescription pattern of drugs used in the gynecology out-patient department of a Tertiary care hospital Average number of drugs prescribed per prescription including their dosage forms and relationship between patient demographics and prescription pattern.

To know the drugs prescribed by generic name or brand name, drugs prescribed from Indian National List of Essential Medicines (NLEM) 2015, WHO List of Essential Medicines 2015, fixed drug combinations and poly-pharmacy.

MATERIAL AND METHOD:

This was a retrospective, observational, cross sectional study done by collecting the prescriptions of the patients who attended the Gynecology Outpatient Department of Obstetrics and Gynecology at a Tertiary level mother and child hospital, western Rajasthan India. The study was conducted after getting prior approval from the Institutional Ethics Committee. Data of patients visiting gynecology OPD in 6 months was screened and analyzed as per the inclusion and exclusion criteria. After screening, random 300 prescriptions were selected using OpenEpi software and analyzed. The per forma was designed for recording the prescription data like age, diagnosis, month of presentation, drug related information like number of drugs prescribed, drug dosage form, routes of administration, fixed dose combinations of drugs, drugs prescription by generic or brand names.

INCLUSION CRITERIA:

Data of patients with age >18 years after screening having details of parameters under study were included.

EXCLUSION CRITERIA:

Data of Gynecology In-door patients during the study duration, emergency patients, incomplete data.

RESULTS:

Total of 300 prescriptions were analyzed. The mean age of presentation was 20.5 ± 9.05 years. Among all the prescriptions, 194 (64.66%) were issued to patients from rural area and 106 (35.33%) to patients from urban area. The average no. of drugs per prescription was 3.2. Out of 300 prescriptions, 166, 101 and 33 were in age group >18-30 years, >30-50 years and > 50 years respectively. Out of 300 prescriptions, 109(36.3%) were infective cases and 115(38.3%) were non-infective and 76(25.3%) were others. Among infective causes, vaginal discharge was most common (12.66%) followed by PID (8.33%) and UTI (5%). Distribution of infective diseases among patients visiting Gynecology OPD is given in **Table 1**.

Table1: Distribution of infective gynecological disease according to age groups.

Infective disease	Age inyears (Number of patients)				
	Age > 18-30 yrs	Age > 30-50 yrs	Age > 50 yrs	Total	Percentage
Vaginal discharge	15	22	1	38	12.66
PID	18	5	2	25	8.33
UTI	12	3	0	15	5.00
Itchy perineum	8	5	1	14	4.66
Cough fever	3	2	0	5	1.66
SSI	0	4	0	4	1.33

Diarrhea	1	2	1	4	1.33
Tinea Corporis	1	1	1	3	1.00
Episiotomy wound	1	0	0	1	0.33
Scabies	0	0	0	0	00
Abscess	0	0	0	0	00
Tuberculosis	0	0	0	0	00
Total	59	44	6	109	36.33

PID= Pelvic Inflammatory Disease, UTI= Urinary Tract Infection, Surgical site infection

Among non-infective cases, menstrual disorders were common, in which AUB (9.66%) was most common followed by irregular menses (5.33%) and dysmenorrhea (4%). Distribution of non infective diseases among patients visiting gynecology OPD is given in **Table 2.**

Table2: Distribution of non-infective gynecological diseases according to age groups.

Non-Infective disease	Age in years (Number of patients)				
	Age > 18-30 yrs	Age > 30-50 yrs	Age > 50 yrs	Total	Percentage
Menstrual disorders					
AUB	7	16	6	29	9.66
Irregular menses	12	4	0	16	5.33
Dysmenorrhea	10	2	0	12	4.00
Menorrhagia	5	4	0	9	3.00
PCOD	3	3	0	6	2.00
Bleeding per vagina	4	0	0	4	1.33
Amenorrhea	1	0	0	1	0.33
Pelvic Mass					
Prolapse	1	0	10	11	3.66
Ovarian cyst	6	4	0	10	3.33
Fibroid uterus	0	8	0	8	2.66
Endometrial Polyp	1	2	1	4	1.33
Adenomyosis	0	1	1	2	0.66
Ca Cervix	0	1	1	2	0.66
Ca Endometrium	0	1	0	1	0.33
Fibroadenosis	0	0	0	0	00
Vesicular mole	0	0	0	0	00
Total	50	46	19	115	38.33

DUB- Dysfunctional uterine bleeding, PCOD- Polycystic ovarian disease, Ca-Carcinoma

Among other diseases infertility was common, there were 9 patients for copper T insertion, 7 cases of hypertention, 9 patient of anaemia correction and 4 cases of backache. Distribution of other diseases among patients visiting gynecology OPD is given in **Table 3**

Table 3: Distribution of other diseases according to age

Other disease	Age in years (Number of patients)				
	Age > 18-30 yrs	Age > 30-50 yrs	Age > 50 yrs	Total	Percentage
Post Natal Cases	43	5	0	48	16.00
Cu-T	8	1	0	9	3.00
Hypertension (HTN)	0	0	7	7	2.33
Anemia	4	2	0	6	2.00
Backache	1	2	1	4	1.33
Headache	1	0	0	1	0.33
Diabetes mellitus (DM)	0	1	0	1	0.33
Lump in breast	0	0	0	0	00
Hypothyroid	0	0	0	0	00
Postpartum psychosis	0	0	0	0	00
Total	57	11	8	76	25.33

A total of 860 drugs were prescribed in 300 prescriptions. Among all drugs, tablet forms (81.6%) are more commonly prescribed followed by syrup (7.90%), capsule (4.88%) and pessary (4.18%). Among all drugs, Minerals were most commonly prescribed (39.76%). In minerals, iron and folic acid supplements were most common followed by calcium.

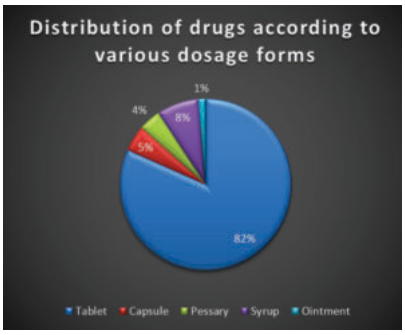

Figure1: Shows distribution of drugs according to various dosage forms

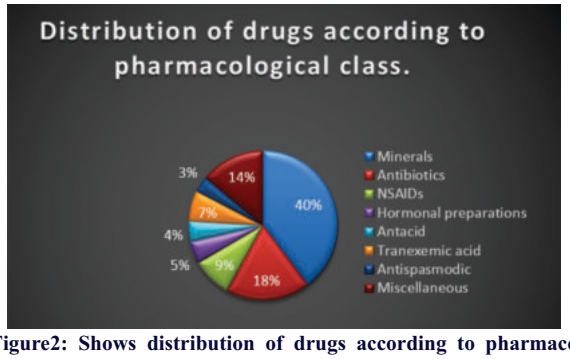

Figure2: Shows distribution of drugs according to pharmaco logical class

The second most common drugs prescribed were antimicrobials (18.25%), in which Metronidazole was most common followed by Doxycycline, azithromycin, cefexime and amoxyclav. The third group of drugs commonly prescribed was Nonsteroidal Anti-inflammatory Drugs (NSAIDs), in which paracetamol was most common. Out of 42 (4.88%) hormonal preparations, Oral Contraceptive Pills (OCP) was commonly prescribed followed by cyclical Progesterone. Out of 860 drugs prescribed, 100 % drugs were prescribed by generic name, 72 (8.37%) prescribed were fixed dose combination. Polypharmacy (containing >2 drugs per prescriptions) was observed in 300 (100%) prescriptions. Distribution of drugs according to various dosage forms and pharmacological classes are given in **Fig 1** and **Fig 2** respectively.

DISCUSSION:

In our study mean age of presentation was 20.5±9.05 years and the most common age group was >18-30 years. In studies carried out by Sharma N et al. most common age of presentation was 20.5±8.65 years[7]. Similar studies done by Kaur et al. mean age of women attending Gynecology OPD was 29.80±6.293 years[8]. This may be due to the fact that in our country, this is the common reproductive age group in which females become sexually active. Due to lack of awareness, sexually transmitted diseases are common in this age group bringing them to OPD. In present study 226 (75.3%) patients were from rural area and 74 (24.7%) patients were from urban area. This indicates that majority of the rural patients depend on the peripheral health services for gynecological diseases. Therefore, these services should be strengthened, and all the essential medicines be made available to reduce morbidity among women from rural areas.

Reproductive/Sexual tract infections (RTI/STI) are major cause of gynecological morbidity all over the world. NFHS-3, estimates that 11.1% of women were reported to have STI in India[9].Thapa et al reported that commonest age group of STI is 20-29 years and the most common symptoms are vaginal discharge[10]. In present study also vaginal discharge is most common infectious disease followed by PID and UTI. This is due to the reason that most of the patient belonged to reproductive age group being sexually active. According to Patel et al, Pelvic Inflammatory Disease (PID) is one of the most serious infections and is a common problem encountered in gynecological clinics in India and abroad[11]. In present study urinary tract infection (UTI) was seen mainly in >18-30 years of age group. As per Gupta et

al, more than half of the females with lower urinary tract symptoms were middle aged between 31-55 years of age[12].

Among menstrual disorders in our study, in >18- 30 years of age group, AUB was common. As per Harlow et al menstrual disturbances are between first and fourth most common reported gynecological complaints in India[13,14].

Among all the drugs, 39.76% prescribed were Minerals in which Iron and Folic acid supplements were commonly prescribed. In India 55% of the females have anemia and is more widespread among both women and children and it has risen almost 5% points than NFHS-2[15]. As per Bhatia et al approximately one-third of all women in OPD reported symptoms of anaemia[16]. In present study diagnosed cases of anemia were less compared to Iron and folic acid supplements prescribed as majority of these were prescribed based on symptoms of anemia. Also, many physicians prescribe these supplements considering the nutritional status and socioeconomic background of Indian women. The second commonly prescribed group in our study was antimicrobial drugs, in which Metronidazole was common followed by Doxycycline and azithromycin. In the present study, the encounters with an antibiotic prescription was 18.25% which is less than the results of Norway (48%) [17] and Iran (61.9%) [18]. In a study by Shah et al in indoor patients Ciprofloxacin (60.90%) was commonly used followed by Ampicillin (54.54%) and Metronidazole (39.69%). A number of Indian studies have recorded a high level of use of Metronidazole, Ciprofloxacin, Cefazolin in gynecological department[19]. As per Sihavong et al, recommended drugs for the treatment of vaginal discharge and lower abdominal pain syndromes include Metronidazole orally or vaginal suppository[20]. According to WHO, 15-25% of antibiotics encountered is expectable in the countries where an infectious disease is more prevalent[21].The third commonly prescribed drugs in our study were NSAIDs. As per Dhaubhadel et al pain is the most distressing experience of human beings and pelvic pain is one of the most common reasons for gynecology consultation[22].

WHO has recommended that average number of drug per prescription should not be >2.0, poly pharmacy may lead to adverse drug reactions, increase the risk of drug interactions, dispensing errors, decrease adherence to drug regimens and unnecessary drug expenses[21]The average number of drugs per prescription in present study was 3.7. This is due to the prevalence of iron deficiency anemia usually associated with upper abdominal discomfort leading to additional co-prescription of drugs to these patients.

In present study all of the drugs prescribed were generic which were from the essential medical list NLEM (2015) and WHO (2015)[23,24].

CONCLUSION:

Present study focused on understanding drug prescription and trends with respect to Gynecology OPD. The drugs prescribed were from Indian National List of Essential Medicines (NLEM) 2015, WHO List of Essential Medicines 2015.

Though poly pharmacy was seen in the prescriptions which need to be evaluated and minimized. It is suggested that periodic evaluation of prescribing practices would help to promote further rational practice.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee.

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