PRESCRIBING PATTERN AMONG OUT PATIENTS OF DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY IN A TERTIARY CARE HOSPITAL

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Abstract

Drugs used in pregnancy are one of the top-selling drugs in India. However, there are only minimal studies conducted to evaluate the utilization of such drugs. Thus the present study was undertaken to analyze drug usage pattern and to identify potential drug-drug interactions in the prescriptions of the out-patient department of OBG in a tertiary care hospital. To analyze the drug usage pattern among the outpatients of the OBG department in a tertiary care hospital. A prospective observational study was conducted for a period of six months. During the study period, a total of 200 prescriptions were analyzed. Details including patient demographics and medications prescribed were noted in the specially designed data collection form. From the prescriptions, the potential drug-drug interactions were identified by using Micromedex software. A total of 200 prescriptions were analyzed. The mean age of patients was 26.13 ± 5.74 years. Most of the pregnant women in the 1st and 2nd trimester were found to be in the age group of 25-31 years. The average number of drugs prescribed per prescription was found to be 1.58. Iron and folic acid preparation was found to be the highest prescribed medication 153 (48.26%). Out of 200 prescriptions analyzed, 197 (98.5%) had no significant drug-drug interactions present while 3(1.5%) prescriptions had one drug-drug interaction each. The prescribing pattern observed in the current study can be considered as a good example to educate healthcare professionals on the importance of rational use of drugs during pregnancy.

Keywords: Obstetrics and gynaecology, drug utilization, pregnancy, prescription pattern.

Introduction

Drug-utilisation studies reveal that most women use drugs during pregnancy, with estimations varying from 44% to 99%. However, a comparison is difficult because of the differences in the study design. Most studies found an increasing trend in the use of drugs during pregnancy (Udaykumar, 2013). It must also be noted that drug use cannot always be avoided during pregnancy (David, 2008). Most of the pregnant women need permanent drug treatment due to their chronic diseases such as epilepsy, diabetes mellitus, bronchial asthma, hypertension, thyroid disorders, migraine, and severe depression. Improper usage of maternal medications can also increase the incidence of abortion, fetal death, and premature/delayed labor or create perinatal problems (Ilyas *et al*., 2014). Drug utilization is defined by the WHO as the "marketing, distribution, prescription, and use of drugs in society, with special emphasis on the resulting medical, social, and economic consequences" (Deshagani *et al*., 2015, Al-Jabri *et al*., 2019, Gauda *et al*., 2019 and D'souza *et al*., 2019). The main aim of drug utilization research is to facilitate the use of drugs among patients as per WHO guidelines, minimize the incidence of adverse events and drug interactions leading to better patient outcomes (Voora *et al*., 2020). It is essential to assess the drug utilization pattern in pregnancy for the scope of improvement in the current prescribing practices (Varghese *et al*., 2016). The main objective of this research work is to study the various classes of drugs prescribed in the Obstetrics and gynaecology (OBG) Department and to identify the drug-drug interactions in the prescriptions.

Materials and Methods

Study design and site: A prospective observational study was conducted at the out-patient department of OBG of Father Muller Medical College Hospital, Kankanady, Mangalore, Karnataka.

Study duration: The study was conducted for a period of 6 months from November 2016 to April 2017.

Ethical Clarence: Ethical clearance was obtained from the Institutional Ethics Committee of Father Muller Medical College Hospital. Ref No: FMMC/FMIE/3048/2016

Sample size: A total of 200 prescriptions were analyzed.

All pregnant women attending OBG OPD willing to participate in the study were included in the study. Patients with incomplete records, complicated pregnancy and those not willing to take part were excluded.

Methodology

The study was initiated with the cooperation of health care professionals. The study procedure included a daily visit by the study pharmacist to the OBG OPD to collect and analyze the prescriptions. Patient demographic information was entered in a specially designed data collection form. Prescription details including generic/brand name of the drug, number of drugs prescribed, dosage form, route of administration, dose prescribed were also recorded.

Prescriptions were then analyzed to find out drug-drug interactions using Miromedex software.

Statistical Analysis: All the statistical evaluation was carried out by using SPSS (version 16.0)

Results

Distribution of subjects according to age and trimester

Most of the pregnant women in the 1st and 2nd trimester were found to be in the age group of 25-31 years. The details are illustrated in Figure 1.

Distribution of subjects according to symptoms presented

Out of the total subjects enrolled, 21(10.5%) were presented with nausea and vomiting, 14 (7%) with abdominal pain, 8(4%) with burning micturition and 8(4%) with headache. 113 (56.5%) presented no complaints. The details are given in Table1.

Distribution based on dosage forms prescribed

A total of 317 medications were prescribed among 200 subjects. Out of the total medications prescribed, 45.42% (144) were tablets followed by capsules 35.01% (111). Details are summarized in table 2.

Distribution based on class of drugs prescribed

Iron and folic acid preparation was found to be the highest prescribed medication 153 (48.26%). Commonly prescribed classes of drugs are given in table 3.

Pregnancy category and prescribed drugs

Out of the total number of medications prescribed, 55.6% were found to be of FDA pregnancy Category A followed by Category B (30.1%), Category C (14.3%). None of the drugs belonging to category D and X were prescribed among the study subjects.

Distribution of drug-drug interactions in the prescriptions

Out of 200 prescriptions analyzed 197(98.5%) had no significant drug-drug interactions present, while 3(1.5%) prescriptions had one drug-drug interaction each. Out of the three interactions, two were categorized as minor in severity and one with a moderate level of severity.

Discussion

According to the present study, the number of pregnant subjects was found highest in the age group of 18–24 years.

The maximum age of the pregnant women in the study group was found to be 46 years while the minimum age was 18 years. The mean age of the study population was found to be 26.13 ± 5.74 years. The present result was found similar to the findings of (Monali et al., 2006). 65.5% of women in this study came for a routine antenatal check-up with no complaints. Twenty-one patients came with complaints of nausea and vomiting followed by 14 with abdominal pain. It was found similar to the study results of (Mamtha et al., 2016) as the majority of their patients reported the same complaints on hospital admission. Most of the subjects in the present study did not have any complaints during their pregnancy period. It could be attributed to the fact that the majority of the subjects belonged to the age group of 18-24 years which is the physically healthy and reproductive period (Supriya et al., 2014).
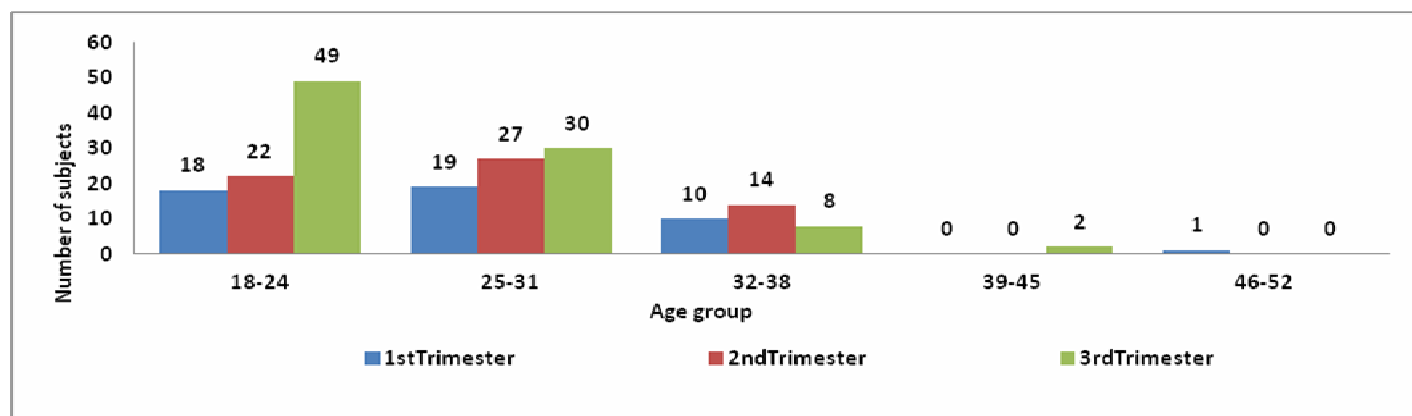
Out of 200 prescriptions analyzed, Iron and folic acid preparation were found to be the highest prescribed agent followed by multivitamins. Similar reports were observed by Joshi et al. and Ilyas et al. in their respective studies (Joshi et al., 2012 and Ilyas et al., 2014). In the present study, 45.42% of total medications were prescribed as tablets followed by other dosage forms including capsule and injection. This finding is almost similar to the study results of Jyothi R et al. who conducted their study in the year of 2014, in which tablets were found to be the most commonly used dosage form among their patient population (Jyoti et al., 2015). Out of 200 prescriptions, 197 (98.5%) had no significant drug-drug interactions, and 3(1.5%) had drug interactions. This result is in accordance with the study conducted by (Mamtha et al., 2016).

Conclusion

In the present study, it was found that all eligible subjects were prescribed with iron and folic acid preparation. Additional drugs were prescribed only if it was required for the patient as per their clinical condition. The majority of the drugs prescribed belonged to USFDA Category A and none of Category X drugs were prescribed among subjects. Thus the prescribing pattern observed in the current study can be considered as a good example to educate healthcare professionals on the importance of rational use of drugs during pregnancy.

Table 1: Symptom wise distribution of patients.

Symptoms Presented	Number of Subjects (n)	Percentage (%)
Vomiting and Nausea	21	10.5
Abdominal pain	14	7.0
Burning micturition	8	4.0
Headache	8	4.0
No complaints	131	65.5
Miscellaneous	18	9.0
Total	200	100

Table 2: Distribution based on dosage forms.

Dosage Form	No. of Medications Prescribed(n)	Percentage (%)
Tablets	144	45.42
Injections	31	9.77
Syrups	18	5.67
Capsules	111	35.01
Ointments	13	4.10
Total	317	100

Table 3: Distribution based on class of drugs prescribed.

Drugs	Frequency (n)	Percentage (%)
Iron and folic acid	153	48.26
Calcium and multivitamin preparation	101	31.86
Antihistamines	19	5.99
Proton pump inhibitors	17	5.36
Analgesics	15	4.73
Antiemetic	8	2.52
Antibiotics	4	1.26
Total	317	100

Fig. 1: Age and trimester wise distribution

Conflict of Interest: Nil

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