The Standard of Prescription of Medicines in Obstetrics and Outpatient Gynecology of a Public Hospital

Nehad J. Ahmed

Department of Clinical Pharmacy, College of Pharmacy, Prince Sattam Bin Abdulaziz University, P. O. Box 173, Al-Kharj 11942, Saudi Arabia.

Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i831212

Editor(s):
(1) Dr. R. Deveswaran, M. S. Ramaiah University of Applied Sciences, India.

Reviewers:
(1) Marta Macías Maroto, Asturias University Hospital, Spain.
(2) J. Bhargava Narendra, QIS College of Pharmacy Ongole, India.
(3) Lidiane do Nascimento Rodrigues, State University of Ceará, Brazil.

Complete Peer review History: http://www.sdiarticle4.com/review-history/65569

Received 05 December 2020
Accepted 10 February 2021
Published 08 March 2021

ABSTRACT

Objective: This study aimed to describe the pattern of prescription of medications in the department of obstetrics and gynecology in a public hospital in Alkharj.

Methodology: This is a retrospective study that included data collection of outpatient electronic prescriptions at a public hospital in Alkharj. Data were collected and analyzed using Microsoft Excel. Descriptive data were represented as percentages and numbers.

Results: The total number of outpatients who received prescriptions from the obstetrics and gynecology outpatient clinic was 722. The majority were between 20 and 39 years old (76.04%). Most prescriptions were written by consultants (55.12%) followed by residents (42.38%). Most drugs were prescribed as tablets (63.43%) followed by capsules (17.17%) and ampoule/syringe (9.42%). The most prescribed medication was paracetamol (14.68%) followed by ferrous sulfate/ferrous hydroxide (13.85), amoxicilline (8.17%).

Conclusion: The pattern of prescription of medications in the department of obstetrics and gynecology, especially during pregnancy, needs to be continuously evaluated in order to promote rational prescription of medications in order to decrease morbidity and mortality associated with therapy. It is important to raise the awareness of health professionals about the use of supplements and antimicrobials.

*Corresponding author: E-mail: n.ahmed@psau.edu.sa., pharmdnehadjaser@yahoo.com;
Keywords: Medicines; obstetrics and gynecology; outpatient; prescription pattern rational usage.

1. INTRODUCTION

The irrational use of medicines has attracted serious concerns around the world. It is expensive, not only in terms of human suffering, but also in economic terms. This use can lead to exacerbation or prolongation of the disease, draining scarce resources of medical care and causing greater morbidity and mortality [1].

The World Health Organization (WHO) defined the rational use of medicines as "patients receive medicines appropriate to their clinical needs, in doses that meet their own individual needs for an appropriate period, at the lowest cost to them and their community" [2] and estimated that nearly 50% of all drugs in the world are used irrationally.

In Europe, at least 25,000 patients die annually due to the irrational use of antibiotics, and costs totaled more than 1.5 billion euros per year [3].

The research on the use of medicines is defined as "the commercialization, prescription, distribution and use of medicines in a society with special emphasis on the resulting economic, medical and social consequences [4]. It is one of the approaches to study the use of medicines [4]. Drug use patterns need to be evaluated from time to time to decrease adverse effects, increase therapeutic efficacy, and provide feedback to prescribers to create awareness for rational drug use [5].

Obstetrics & gynecology specializes in the care of women during pregnancy, childbirth and the diagnosis and management of diseases of female reproductive organs. It also specializes in other women's health problems, such as hormonal problems, menopause, contraception and infertility [6]. This study aims to describe the pattern of prescription of medications in the outpatient department of obstetrics and gynecology in a public hospital in Alkharj.

2. METHODOLOGY

This is a descriptive study that included the collection of data from outpatient electronic prescriptions in a public hospital in Alkharj on the pattern of prescription of medications in the department of obstetrics and gynecology from 1st July 2018 to 31st December 2018.

All outpatient scans that received prescriptions written by the department of obstetrics and gynecology were included in the study.

Data were collected and analyzed using Microsoft Excel after the approval of the study by the IRB committee with an IRB log number of 20-011E. Data were represented as percentages and numbers.

3. RESULTS

The total number of outpatients who received prescriptions from the obstetrics and gynecology outpatient clinic was 722. The majority were between 20 and 39 years old (76.04%). Table 1 shows the age of the patients.

Table 2 shows the level of prescribers. Most prescriptions were written by consultants (55.12%) followed by residents (42.38%).

Table 3 shows the dosage forms of the prescribed drugs. Most drugs were prescribed as tablets (63.43%) followed by capsules (17.17%) and ampoule/syringe (9.42%).

Table 4 presents the most prescribed drugs in the outpatient department of obstetrics and gynecology. The most prescribed medication was paracetamol (14.68%) followed by ferrous sulfate/ferrous hydroxide (13.85), amoxicillin (8.17%), ferrous sulfate + folic acid (7.89%) and enoxaparin (7.48%).

4. DISCUSSION

Most medications were prescribed as tablets followed by capsules and ampoule/syringe. It is rational to prescribe medicines such as tablets and capsules in outpatient departments. Several prescriptions contain ampoule/syringe in the outpatient clinic due to the use of enoxaparin
Table 2. The level of prescribers

| Level of prescribers | Number | Percentage |
|----------------------|--------|------------|
| Specialist           | 18     | 2.49       |
| Resident             | 306    | 42.38      |
| Consultant           | 398    | 55.12      |

Table 3. The dosage forms of prescribed medications

| Dosage forms             | Number | Percentage |
|--------------------------|--------|------------|
| Tablet                   | 458    | 63.43      |
| Capsule                  | 124    | 17.17      |
| Ampoule/Syringe          | 68     | 9.42       |
| Cream                    | 36     | 4.99       |
| Suppository              | 13     | 1.80       |
| Ointment                 | 12     | 1.66       |
| Syrup/Suspension         | 9      | 1.25       |
| Gel                      | 2      | 0.28       |

Table 4. The most prescribed medications in the outpatient department of obstetrics and gynecology

| Medication                              | Number | Percentage |
|-----------------------------------------|--------|------------|
| Paracetamol                             | 106    | 14.68      |
| Ferrous sulfate/ Ferrous hydroxide      | 100    | 13.85      |
| Amoxicillin                             | 59     | 8.17       |
| Ferrous sulfate + folic acid            | 57     | 7.89       |
| Enoxaparina                             | 54     | 7.46       |
| Calcium carbonate                       | 52     | 7.20       |
| Folic acid                              | 47     | 6.51       |
| Fusidic acid                            | 36     | 4.99       |
| Multivitamins                           | 29     | 4.02       |
| Dydrogesterone                          | 17     | 2.35       |
| Metronidazole                           | 15     | 2.08       |
| Amoxicillin/Clavulanic Acid             | 13     | 1.80       |
| Hidroxiprogesterona                     | 10     | 1.38       |
| Miconazole                              | 10     | 1.38       |
| Nystatin                                | 9      | 1.25       |
| Aspirin                                 | 9      | 1.25       |
| Other                                   | 99     | 13.71      |

Ahmed reported that about 86.32% of outpatient prescriptions containing enoxaparin syringe were prescribed for female patients and that most enoxaparin prescriptions were from the department of obstetrics and gynecology [7].

The most prescribed medication was paracetamol followed by ferrous sulfate/ferrous hydroxide, amoxicillin, ferrous sulfate + folic acid and enoxaparina. Wang et al. [8] stated that among the 363,642 antimicrobial prescriptions prescribed in 2014 by outpatient and emergency sections, 3,733 prescriptions were written by the department of obstetrics and gynecology. Most of these prescriptions (3199) were prescribed by the outpatient clinic [8]. Kumar et al. [9] reported that, among pregnant women, most of the drugs prescribed were an antibiotic (18.2%), calcium supplement (17.4%), iron preparations (15.8%) and anti-ulcer drugs (8.1%) [9]. Reddy et al. [10] reported that the most prescribed medications during pregnancy include vitamin and iron supplements, analgesics/antipyretics, anti-infectives and antihistamines [10].

Mobark et al. [11] reported that about 13% of the antibiotics prescribed at al-Rass hospital were written by the section obstetrics and gynecology and that ceftriaxone and metronidazole had a high frequency prescription in the obstetrics and gynecology section (9.1% and 11.5%) respectively [11]. Alema et al. [12] stated that in
relation to the use of drugs prescribed in pregnant women, a considerable percentage of participants (41.4%) were prescribed with supplemental medicines (iron folate being the most prescribed drug) followed by antibiotics (23.4%) and analgesics (9.2%) [1] [2]. In addition, Sharma and Jhanwar reported that, in relation to the pattern of drug use in the gynecology department, minerals were more commonly prescribed (46.4%), followed by antimicrobials (27.6%) and NSAIDs (20.1%) [3].

Rani et al. [14] reported that among patients who attended government maternity, the most common groups of prescribed drugs were antimicrobial (72%) followed by vitamins and minerals 46% anti-biotics 46% and analgesics 23.8% and antispasmodics 28% and that the antimicrobial commonly prescribed metronidazole 39.8%, and doxycycline 33%, fluconazole 2.4% ciprofloxacin 0.8% [14].

5. CONCLUSION

The present study showed that supplements and antimicrobials are commonly prescribed in the department of obstetrics and gynecology. The pattern of prescription of medications in the department of obstetrics and gynecology, especially during pregnancy, needs to be continuously evaluated in order to promote the rational prescription of medications, to decrease morbidity and mortality associated with therapy. It is important to raise the awareness of health professionals about the use of supplements and antimicrobials.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

ACKNOWLEDGMENT

This Publication was supported by the Deanship of Scientific Research at Prince Sattam bin Abdulaziz University.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. World Health Organization. The World Situation of Medicines 2011 - Rational Use of Medicines; WHO: Geneva, Switzerland, 2011.
2. IOCU: For the rational use of drugs; prescription of the international consultation on the rational use of medicines in undergraduate medicine/pharmacy, International Organization of the Union of Consumers, Manila; Philippines; 1998.
3. ECDC. ECDC/EMEA joint technical report — The bacterial challenge: Time to react. Available: http://ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?id=199&list=4f55ad51%2D4aed%2D4d32%2Dbd960%2Da0113dbb90
4. Who. WHO’s policy perspectives on medicines. Promotion of rational use of medicines: World health organization. Available: http://www/who.int/medicines/publications/policyperspectives/ppm05en.pdf.
5. Sarraf DP, Rauniar GP, Misra A. Standard of drug use in four main wards of a tertiary hospital in eastern Nepal. HREN. 2015; 13(2):50-65.
6. Cancer.gov. Obstetrics and gynecology. Available: https://www.cancer.gov/publications/dictionaries/cancer-terms/def/obstetrics-and-gynecology
7. Ahmed NJ. Use of Enoxaparin in the Department of obstetrics and gynecology. J Pharm Res Int. 2020;32(8):1-5.
8. Wang YY, Du P, Huang F, Li DJ, Gu J, Shen FM, Jiang YY. Antimicrobial prescription standards at a large tertiary hospital in Shanghai, China. Antimicrob Agents Int J. 2016;48(6):666-673.
9. Satish Kumar BP, Abraham LE, Thomas AA, Wagle L. Standard among pregnant women in the department of obstetrics and gynecology in a university hospital of rural tertiary care. WJPR. 2016;5(6):1198-1218.
10. Reddy BS, Patil NR, HinchagerIS, Kamal S. Evaluating the pattern of drug use among pregnant women and evaluating the impact of counseling on medication adhering among them. IRJP. 2011;2(8):148-53
11. Mobark MA, Al-Harbi HS, Ahmed ES, Al-Harbi YN. The pattern of antibiotic prescription at Al-Rass Hospital. Int J Pharm Sci and Res. 2019;10(10):4776-81.
12. Alema NM, Semagn G, Melesse S, Araya EM, Gebremedhin H, Demsie DG. Patterns and determinants of prescription
drug use among pregnant women at Adigrat General Hospital, northern Ethiopia: A cross-sectional study. Pregnancy Delivery BMC. 2020;20(1): 1-9.

13. Sharma N, Jhanwar A. Study of the pattern of drug use in the gynecology department of the tertiary care hospital in Rajasthan, India. Int J Reprod Contracept Obstet Gynecol. 2018;7(7):2651.

14. Rani KR, Anitha N, Bharathi T, Chandrasekhar P. Analysis of the prescription pattern in patients attending Government Maternity. IOSR-JDMS. 2018;17(1):13-17.

© 2021 Ahmed; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here: http://www.sdiarticle4.com/review-history/65569