

Drug Utilization Pattern in Ophthalmology: A Observational and Cross-sectional Study

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Abstract

Aim: To study the current prescribing and drug utilization pattern in Ophthalmology Department.

Materials and Methods: Observational and cross-sectional study was conducted in the Department of Ophthalmology, Acharya Shri Chander College of Medical Sciences, Jammu, for a period of 2 months from month of March to April 2017. 240 patients (with VA 6/6) attending the Ophthalmology Outpatient Department were included in the study. Data analysis was performed using the descriptive statistical methods: Frequencies, percentage, and proportion.

Results: A total of 240 prescriptions of patients were analyzed with the average number of drugs per prescription being 1.69. Single drug was prescribed in 78 (19.22%) patients, 2 drugs were prescribed in 158 (77.83%) patients, and 3 drugs were prescribed in 12 (2.95%) patients. Lubricating eye drops were most commonly prescribed (37.19% [151/406]), followed by antibiotics (31.28% [127/406]) and anti-allergic including steroids, nonsteroidal anti-inflammatory drugs, antihistaminics, decongestants (26.85% [109/406]). Antiglaucoma medications (4.68% [19/406]) were prescribed the least.

Conclusion: The present study revealed the trend of prescribing practices of the ophthalmologists of the institute. Lubricating eye drops were prescribed most frequently. Polypharmacy was not common in the department.

Key words: Drug utilization study, Ophthalmology, Outpatient department

INTRODUCTION

The World Health Organization (WHO) has defined drug utilization research as the marketing, distribution, prescription, and use of drugs with special emphasis on medical and social consequences.¹ It is essential part of pharmacoepidemiology which describes the extent, nature and determinants of drug exposure with the ultimate aim of rational use of drugs in the population.²⁻⁵ The present variations in the drug prescribing pattern, concerns over adverse drug reactions and increase in the price of drugs have increased the importance of drug utilization studies.⁶ Many pharmaceutical preparations are available in the market often with unaffordable cost.⁷ Irrational and inappropriate use of drugs in health-care system

observed globally is a major concern.⁸ Therefore, drug utilization pattern needs to be studied carefully to increase therapeutic efficacy, decrease side effects and also to assess the rationality of drug prescription. Previously, only a few studies were conducted to study drug use pattern in ophthalmology in India. Therefore, the present study was conducted to study the drug use in ophthalmology.

MATERIALS AND METHODS

Observational and cross-sectional study was conducted in the Department of Ophthalmology, Acharya Shri Chander College of Medical Sciences, Jammu, for a period of 2 months from month of March to April 2017. 240 patients attending the Ophthalmology Outpatient Department (OPD) were included in the study. Patients with age group 18-60 years with visual acuity 6/6 were included in the study. Patients with the only ocular route of drug administration were included in the study. Patients with oral or injectable route of drug administration were excluded from the study. Patients with visual acuity <6/6, history of penetrating perforating ocular trauma, psychiatric

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Month of Submission : 06-2017
Month of Peer Review : 07-2017
Month of Acceptance : 08-2017
Month of Publishing : 08-2017

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disorders were excluded from the study. Patients unwilling to give consent were also excluded from the study. The prescriptions for all consecutive patients attending the OPD for the 1st time (1st time encounter) were included. The filled-in forms were checked for completeness of data and data analysis was performed using the descriptive statistical methods: Frequencies, percentage, and proportion.

RESULTS

A total of 240 prescriptions of patients were analyzed with the average number of drugs per prescription being 1.69. Single drug was prescribed in 78 (19.22%), 2 drugs were prescribed in 158 (77.83%), and 3 drugs were prescribed in 12 (2.95%). Lubricating eye drops were most commonly prescribed (37.19% [151/406]) followed by antibiotics (31.28% [127/406]) and anti-allergic including steroids, nonsteroidal anti-inflammatory drugs (NSAIDs), antihistamines and decongestants (26.85% [109/406]), and antiglaucoma medications (4.68% [19/406]) (Tables 1 and 2).

DISCUSSION

Drugs play a crucial role in human health and in promoting well-being. The availability and affordability of drugs along with their rational use is of utmost importance for rendering effective health care. Misuse of drugs is quite common in the developing countries due to irrational prescribing, dispensing and administration of medications. Our study was an attempt to describe the ophthalmic drug prescribing pattern in a tertiary care teaching hospital in North India. In this perspective, drug utilization study is an important tool in assessing rationality of prescriptions. It emphasizes the need for periodic review and educational intervention in prescribing practices. It is preferable to keep the number of drugs per prescription as low as possible, to reduce the risk of adverse effects drug interactions, development of bacterial resistance and to decrease the cost of therapy to the patient. Single drug was prescribed in 78 patients (19.22%), 2 drugs were prescribed in 158 patients (77.83%), and 3 drugs were prescribed in 12 (2.95%) patients in our study.

In this study, an average number of drugs per prescriptions was 1.69, which was lower than range reported in the previous studies by Biswas *et al.* (3.0),⁹ Maniyar *et al.* (2.0),¹⁰ and Nehru *et al.* (1.8).¹¹ Thus, polypharmacy was not common in our study. Recently, regulatory authorities of different countries are advocating generic prescribing to cut total health-care cost. Similar endeavor has also been taken up by the local state government.

Table 1: Number of drugs prescribed per prescription

Prescription containing number of drugs	Number of prescriptions (%)
One	78 (19.22)
Two	158 (77.83)
Three	4 (2.95)
Total=406	Total=240 (100)

Table 2: Different types of drug products prescribed

Type	Number (out of 406) (%)
Ocular lubricants/artificial tears	151 (37.19)
Antibiotics	127 (31.28)
Anti-allergic	109 (26.8)
Antiglaucoma	19 (4.68)

Lubricating eye drops were most frequently prescribed in the study - 37.19% patients. This could be due to availability of emerging new efficacious drugs in the management of allergic conjunctivitis and dry eye syndrome.^{12,13}

Antibiotics were prescribed in 31.28% patients. Other hospital-based studies in ophthalmology in India, have reported 14-33% encounters with antibiotics in their study.⁹⁻¹¹ The high use of antibiotics reflects the prevalence of infections in this region. The percentage of prescription of antibiotics in different dosage form was 31.28%, and this corroborated the findings of Maniyar *et al.* (30.1%), and Nehru *et al.* (32.3%). According to the WHO, 15-25% prescription with antibiotics is expectable in most of the countries where infectious disease is more prevalent.¹⁴

Antiallergics were prescribed in 26.8% patients. Antiallergics included steroids, NSAIDs, antihistaminics, and decongestants. This indicates the prevalence of allergic conditions of the eyes in the study.

The short period of 2 months for this study might be a limitation to this study because an adequately powered study conducted over a longer time frame would have been more informative. Another major limitation of this study is its inability to consider the associated comorbidities of patients.

CONCLUSION

The present study revealed the trend of prescribing practices of the ophthalmologists of the institute. Lubricating eye drops were prescribed most frequently. Polypharmacy was not common in the department.

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How to cite this article: Slathia A, Gupta V, Nanda R, Mahajan P. Drug Utilization Pattern in Ophthalmology: A Observational and Cross-sectional Study. *Int J Sci Stud* 2017;5(5):63-65.

Source of Support: Nil, **Conflict of Interest:** None declared.