



Prescribing Trends of Medications Ophthalmological Outpatient Department in a Public Hospital in Alkharj

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Author's contribution

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

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ABSTRACT

Aim: The present study was undertaken to describe the prescribing pattern of medications in the ophthalmology department in a public hospital in Alkharj.

Methodology: This is a cross sectional study included collecting data from outpatient pharmacy prescriptions in a public hospital in Alkharj. All of the outpatients who received prescriptions from the ophthalmology department between the beginning of July till the end of December 2018 were included in the study.

Results: During the study period, 324 patients received outpatient prescriptions that were written by ophthalmology department. Artificial tears eye drops were the most commonly prescribed drug (29.32%) followed by olopatadine (12.96%), fusidic acid (11.42%) and fluorometholone (10.19%). Most of the prescribers who wrote the prescriptions were residents (98.15%). Eye drop was the most commonly prescribed dosage form (73.77%) followed by ointment (18.21%).

Conclusion: The present study showed that the most commonly prescribed drugs in outpatient ophthalmology department were artificial tears, olopatadine, fusidic acid and fluorometholone. It is also important to increase the awareness of healthcare providers and patients about the appropriate use of these drugs.

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1. INTRODUCTION

The World Health Organization (WHO) has defined drug utilization research as the marketing, distribution, prescription and use of medications in a society, with special emphasis on the resulting medical, economic, and social consequences [1]. It is a vital part of pharmacoepidemiology which describes the nature, extent, and determinants of drug exposure with the ultimate goal to facilitate rational usage of drugs in the population [2].

Inappropriate and irrational use of medications in health care system observed globally is a major concern [3,4]. Recently in the discipline of ophthalmology, there have been numerous drug developments and introduction of new ocular therapeutic agents [5,6]. Antibiotics are widely prescribed and used for different ophthalmic diseases. Evidences have shown trends of increased resistance to different class of antibiotics often used in ocular therapeutics [7-9].

Indiscriminate use of topical antibiotics and nonsteroidal anti-inflammatory drugs cause structural and histological changes in conjunctiva [10,11]. The medication utilization pattern needs to be evaluated from time to time so as to increase therapeutic efficacy and reduce adverse effects [12].

Common eye disorders and diseases included primarily age-related eye diseases such as age-related macular degeneration, diabetic retinopathy, cataract and glaucoma [13]. Other common eye disorders include strabismus and amblyopia [13]. Looking into increasing importance of drug utilization studies, there was

a need to conduct a similar study in the field of ophthalmology. The present study was undertaken to evaluate the prescribing pattern of medications in the ophthalmology department in a public hospital in Alkharj.

2. METHODOLOGY

This is a cross sectional study included collecting data from outpatient pharmacy prescriptions in a public hospital in Alkharj regarding the prescribing pattern of medications in the ophthalmology department.

All of the outpatients who received prescriptions from the ophthalmology department between the beginning of July till the end of December 2018 were included in the study. So, the outpatient prescriptions that were written by other departments were excluded from the study and the prescriptions that were written by other settings were also excluded from the study.

3. RESULTS AND DISCUSSION

During the study period, 324 patients received outpatient prescriptions that were written by ophthalmology department. Most of the patients were females (57.10%) and aged between 40 to 69 (50.92%). Table 1 shows the personal data of the patients.

Table 2 shows the most common prescribed medications that were written by ophthalmology department for outpatients. Artificial tears eye drops were the most commonly prescribed drug (29.32%) followed by olopatadine (12.96%), fusidic acid (11.42%) and fluorometholone (10.19%).

Table 1. The personal data of the patients

| Variable | Category | Number | Percentage |
|----------|--------------|--------|------------|
| Sex | Male | 139 | 42.90 |
| | Female | 185 | 57.10 |
| Age | Less than 10 | 20 | 6.17 |
| | 10-19 | 22 | 6.79 |
| | 20-29 | 30 | 9.26 |
| | 30-39 | 38 | 11.73 |
| | 40-49 | 48 | 14.82 |
| | 50-59 | 65 | 20.06 |
| | 60-69 | 52 | 16.05 |
| | 70-79 | 29 | 8.95 |
| | More than 79 | 20 | 6.17 |

Table 2. The most common prescribed medications

| Medication | Number | Percentage |
|-----------------------------|--------|------------|
| Artificial Tears | 95 | 29.32 |
| Olopatadine | 42 | 12.96 |
| Fusidic Acid | 37 | 11.42 |
| Fluorometholone | 33 | 10.19 |
| Sodium Hyaluronate | 16 | 4.94 |
| Ciprofloxacin | 12 | 3.70 |
| Dorzolamide | 10 | 3.09 |
| Chloroamphenicol | 10 | 3.09 |
| Amoxicillin/Clavulanic acid | 9 | 2.77 |
| Timolol | 9 | 2.77 |
| Others | 51 | 15.74 |

Table 3 shows the prescribers level. Most of the prescribers who wrote the prescriptions were residents (98.15%) and only 1.23% of the prescriptions were written by specialists.

Table 4 shows the most common prescribed dosage forms. Eye drop was the most commonly prescribed dosage form (73.77%) followed by ointment (18.21%) and Tablet/Capsule (8.02%).

The present study showed that the most commonly prescribed drug was artificial tears followed by olopatadine, fusidic acid and fluorometholone. Vaniya et al. reported that among ophthalmology outpatients in a tertiary care hospital, the drug classes that were used most frequently were Antibiotics (45%), Ocular lubricants (24.7%), NSAIDS (17.4%) and Anti-allergy medications [14]. Suman et al. stated that regarding the treatment of conjunctivitis in ophthalmology outpatient department, antihistamine (34.10%), artificial tear (22.23%), and steroids (11.98%) were the most commonly prescribed medications [15].

Zafar et al. reported that regarding postoperative eye drop Use in patients undergoing cataract

surgery, topical antibiotics (89%) were the most commonly prescribed drug class by volume, followed by topical steroids (86%) and nonsteroidal anti-inflammatory drugs (66%) [16]. Moreover, Dutta et al stated that topical antimicrobial agents are the most commonly used drugs in ophthalmological outpatient department in their study [17]. Tahashildar et al. stated that antibiotics were the most commonly prescribed drugs (44.52%), followed by lubricants (22.54%) and antihistaminics were at third position (14.92%) [18].

The present study showed that eye drop was the most commonly prescribed dosage form followed by ointment. Nehru et al reported that in outpatient ophthalmology department of government medical college jammu the maximum number of drugs prescribed were in the form of eye drops (66.18%), followed by ointments (16%), capsules (9.5%) and tablet (6.57%) [19]. Vaniya et al reported that among ophthalmology outpatients in a tertiary care hospital, eye drops were the most commonly prescribed (66.8%) dosage form, followed by ointment (18.4%), capsules (8.66%) and tablets (6%) [14].

Table 3. The level of prescribers

| Prescribers Level | Number | Percentage |
|-------------------|--------|------------|
| Specialist | 4 | 1.23 |
| Resident | 318 | 98.15 |
| Consultant | 2 | 0.62 |
| Total | 324 | 100 |

Table 4. The most common prescribed dosage forms

| Dosage forms | Number | Percentage |
|-----------------|--------|------------|
| Ointment | 59 | 18.21 |
| Tablet/ Capsule | 26 | 8.02 |
| Eye Drops | 239 | 73.77 |
| Total | 324 | 100 |

Tahashildar et al stated that Eye drops were the most commonly prescribed dosage forms 1391 (70.61%) followed by Ointments 250 (12.69%), Tablets 232 (11.78%), Lotion 83 (4.21%), Capsules 5 (0.25%), Syrup 5 (0.25%), Injection 4 (0.20%) out of total 1970 dosage forms [18]. Furthermore, Dhali et al stated that eye drops being the most commonly prescribed dosage forms in outpatient ophthalmology department (57.14%) followed by tablets (14.28%) and ointment (6.42%) [20]. Biswas et al stated that the maximum number of drugs prescribed in ophthalmology department in a tertiary hospital in Delhi were in the form of eye drops (76%), followed by tablets (10.9%) and ointments (6.4%) [21].

4. CONCLUSION

The present study showed that the most commonly prescribed drugs in outpatient ophthalmology department were artificial tears, olopatadine, fusidic acid and fluorometholone. It is important to monitor the prescribing of medications in outpatient ophthalmology department to make sure that they are prescribed and used appropriately. It is also important to increase the awareness of healthcare providers and patients about drugs use.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author.

ETHICAL APPROVAL

The data were collected from outpatient pharmacy by reviewing the outpatient electronic prescriptions. The data were analyzed using Microsoft Excel and the descriptive data was represented as percentages and frequencies. The data were collected after the approval of the study from hospital ethical committee

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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