

<https://doi.org/10.56770/jcp20261016>**DRUG UTILIZATION STUDY IN THE OPHTHALMOLOGY WARD OF A LOCAL HOSPITAL IN FAISALABAD**Uzma Ashraf^{1*} , Liaqat Ali² ¹University of Agriculture Faisalabad, Punjab, Pakistan.²Drug Inspector, Health Department, Government of Punjab, Pakistan.

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ABSTRACT

Concerns regarding the incorrect selection and prescription of necessary and generic medications have been brought up by ophthalmology research in India. The current study examined drug usage trends at a tertiary care hospital's ophthalmology department in order to solve these problems. Patients who visited the ophthalmology outpatient department (OPD) between February and November 2024 were included in this prospective and observational study; patients with glaucoma, cataracts, and hospitalized cases were not. A Case Record Form was used to record patient information, and MS Excel 2019 was used to analyze the data using descriptive statistics. Ninety individuals were included in the trial over a ten-month period, and each patient received an average of 1.91 medications. The most commonly prescribed category was antimicrobials, with fluoroquinolones accounting for 82% of these prescriptions. Interestingly, 95% of prescriptions did not contain any fixed-dose combinations, and 98% of prescriptions were brand-name pharmaceuticals. Of the medications, 74% were used topically and 26% were taken orally. The average amount of medications per prescription is in line with World Health Organization (WHO) guidelines, according to the report. Nonetheless, very few medications were prescribed as generic versions. Therefore, to maximize drug utilization in ophthalmology practice, prescribers must become more aware of the advantages of prescribing both essential and generic medications.

Keywords: Hospital data, Ophthalmology ward, Faisalabad hospital, Drug utilization.*Corresponding Author. E-mail: uzma.ashraf@uaf.edu.pk**INTRODUCTION**

According to the World Health Organization (WHO), a drug use research looks at "the marketing, distribution, prescription, and use of drugs in a society, with a special emphasis on the resulting medical, social, and economic consequences." There are many different brand names for pharmaceutical medications, which can make them costly for both patients and prescribers. Irrational and improper drug usage continues to be a serious global health concern [1]. Drug utilization research is a key aspect of pharmacoepidemiology, focusing on the extent, patterns, and factors influencing drug use. The distinction between these two names has become less clear over time, and they are occasionally used synonymously. However, epidemiology explicitly refers to defined populations where drug use may be measured in terms of incidence and prevalence, even though drug consumption studies frequently draw from a

variety of drug-related sources. Many poor nations lack adequate statistics on drug consumption, despite the fact that this study is essential for both individual patient care and national policy decisions.

To ensure appropriate medicine usage, it is crucial to assess drug use patterns using WHO indicators. Prescribing and patient care surveys utilizing these standardized indicators, which are widely accepted and have been used in more than 30 developing nations, are one popular approach [2-4]. Antibiotics are among the most frequently prescribed medications in hospitals, and their use is especially high in ophthalmology. Examining prescription trends in this area can help lessen problems associated with overuse of antibiotics. Antimicrobials are mostly employed for prevention in ophthalmology because culture analysis data is frequently unavailable. However, overuse can

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cause ocular flora to become resistant, making infections more difficult to treat and raising the possibility of serious eye injury and vision loss [5]. Research in ophthalmology has raised concerns about poor selection and prescribing of essential and generic medicines. In response, this study was conducted to analyze current prescribing patterns and drug utilization trends in the ophthalmology department of a tertiary care hospital, with the aim of understanding drug usage among ophthalmology outpatients in a teaching hospital [6-8].

MATERIALS AND METHODS

This was a prospective observational study conducted in the Department of Pharmacology in collaboration with the Department of Ophthalmology at Madina Teaching Hospital, a tertiary care teaching hospital in Punjab. The study took place from February to November 2024 and included a total of 90 patients who met the inclusion criteria [9-10].

The participants included patients with glaucoma, cataracts, and those admitted to the ophthalmology ward. Case records were maintained for outpatient department (OPD) patients who visited for various indications. Details were recorded in a Case Record Form, which included a demographic profile (initials, age, gender), OPD number, chief complaints, diagnosis, and information on the prescribing patterns of medications. After ten months of data collection, all information was entered into MS Excel 2019 and analyzed using descriptive statistics. The distribution of age and gender, the number of new versus follow-up patients, and the most common clinical presentations were among the demographic features evaluated [11-13]. WHO core indicators, such as the average number of drugs per prescription, the most common method of drug administration, the proportion of brand-name versus generic drug prescriptions, and the percentage of encounters where an injection or

antibiotic was prescribed, were used to assess the drug use patterns [14, 15].

RESULTS AND DISCUSSION

Demographic Profile

82% of the 90 patients who took part in the trial were men and 18% were women. The patients ranged in age from seven to sixty-seven. Patients between the ages of 50 and 60 made up the largest percentage (31%), followed by those between the ages of 40 and 50 (19%).

Prescription Trend

A total of 175 prescribed medications from 90 prescriptions were examined. The analysis of medications provided in accordance with WHO core prescribing indicators is displayed.

Brands vs. Generics

Six (3.55%) of the 169 medications that were prescribed in the ophthalmology OPD were generic, whereas the majority (96.45%) were brand-name.

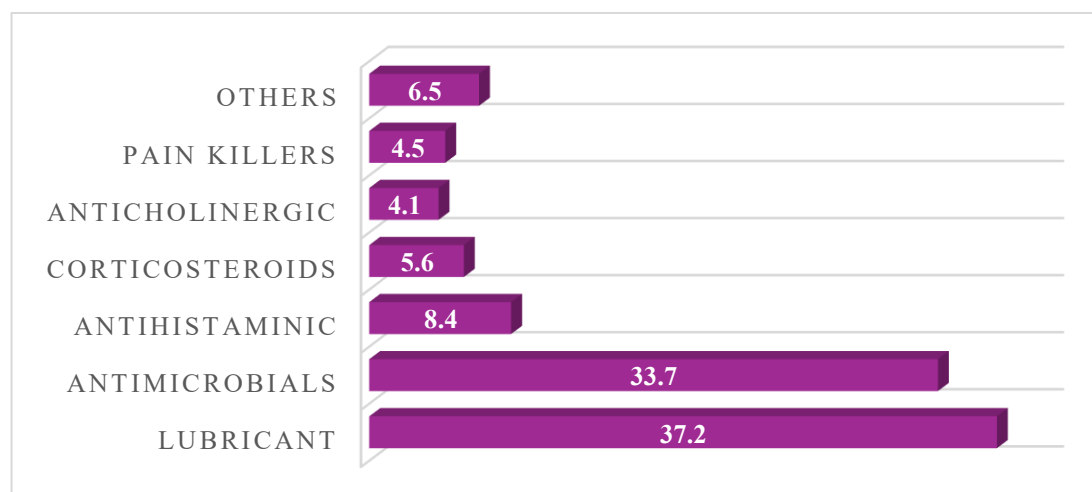
Drug Associations

The lubricant and antibacterial medication families were the most frequently prescribed. Lubricant 37.2%, Antimicrobials 33.7%, Antihistaminic 8.4%, Corticosteroids 5.6%, Anticholinergic 4.1%, Pain killers 4.5% and Others 6.5%.

Administration Route

The primary method of drug administration in the ophthalmology outpatient department (OPD) was found to be topical, accounting for 79% of cases, followed by oral administration at 21%. Moxifloxacin, a newer fluoroquinolone, effectively targets both Gram-negative and Gram-positive bacteria. Its popularity may be attributed to a lower incidence of side effects and increasing concerns about resistance to other ocular antibiotics, which likely contribute to its widespread clinical use [16]. A key sign of polypharmacy is the average number of medications per prescription, which reflects prescription trends and the possibility of drug interactions.

Figure 1: Drug utilization trend (percentage) in ophthalmology ward.



The average number of medications per prescription in this study was 1.91, suggesting a cautious approach to prescription and a limitation on polypharmacy. This result calls for an attempt to limit overuse of medications and lower the possibility of negative interactions. Other ophthalmology research, on the other hand, have found larger averages, indicating differences in prescribing patterns in other contexts [17-19].

Just 2% of the medications in this study were prescribed under their generic names. By lessening the financial burden on patients, prescribing under generic names encourages sensible and economical therapy. It also reduces misunderstanding caused by brand names that sound or look same and helps avoid prescription errors. Despite these benefits, the low rate of generic prescriptions suggests that generic prescribing needs to be given more attention in order to improve pharmaceutical accessibility and safety. Prescribers' lack of confidence, patients' preference for branded medications, or the unavailability of reasonably priced generics could all contribute to the low incidence of generic drug prescriptions. On the other hand, encouraging generic prescriptions can encourage cost-effective therapy, increase access to necessary medications, and lessen irrational drug usage [20].

The majority of medications were applied topically (79%), with 21% being taken orally. Topical preparations are preferred because of their site-specific action, which increases treatment efficacy while reducing systemic side effects. This supports the justification for their extensive usage in ophthalmic treatment, guaranteeing improved patient safety and focused medication delivery. Injections should be used carefully because they can cause local toxicity and increase expenses. This supports the argument against needless injections in ophthalmic practice by highlighting a preference for safer and more economical ways of delivery.

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Antimicrobial misuse can result in resistance. Antimicrobial therapy is heavily relied upon in ophthalmic practice, as evidenced by the fact that 33.7% of prescriptions in this study contained antibiotics. To reduce the possibility of antimicrobial resistance and guarantee long-term therapeutic efficacy, careful prescribing is crucial, even though their use is frequently required [21, 22]. The most frequently prescribed group of drugs in this study was lubricants, accounting for 37.2% of prescriptions. Among these, carboxymethylcellulose (CMC) was the most commonly prescribed. CMC is favored for treating dry eyes as it boosts tear production, protects the ocular surface from dryness, extends retention time, and enhances eye moisture. These benefits justify its frequent use in ophthalmic practice. There is a need to educate and encourage medical practitioners to prescribe only essential medicines whenever possible to promote the rational use of medications.

CONCLUSION

The average amount of medications per prescription was around the WHO recommended value, according to the current study, suggesting a decreased risk of adverse drug responses. Only a small number of medications from the essential drug list were prescribed as generics, nevertheless. The essential drug list, the availability of generic medications, and the advantages of prescription from these sources should all be explained to prescribers.

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