

Self-medication as an Initial Treatment and its Associated Complications in Ophthalmic Patients at Al-Khidmat Teaching Hospital, Mansoorah, Lahore, Pakistan



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ABSTRACT

Purpose: To identify self-medications used by patients as initial treatment for various eye problems and to analyze associated complications.

Study Design: Cross sectional.

Place and Duration of Study: Al-Khidmat teaching hospital, (University of Lahore) from October 2021 to September 2022.

Method: This study included 117 patients using traditional eye medications (TEM) and over the counter (OTC) ophthalmic drugs before presenting in ophthalmic outdoor. A semi structured questionnaire was used as a tool to collect the data. All patients aged 18 years and above were directly questioned. For patients below 18 years, responses were collected from the patients themselves when possible; otherwise, the accompanying parent provided the information. Age, gender, educational status and area of residence were recorded. The symptoms compelling the use of TEM/OTC or both, the source and type of medication, diagnosis and any complications that resulted due to self-medication were documented. Complete ocular examination was done. MS Excel was used to record and analyze data.

Results: There were 48% males and 52% females. Rosewater was the most frequently used TEM by 54.7%. Steroids-antibiotic combination eyedrops/ointments were used by 31.6%. Symptoms for which self-medication was done, were redness (64.1%), watering (35.9%), itching (32.5%) and discharge (26.5%). Symptoms did not improve in 54.7%, 26.5% required ophthalmic consultation and only 18.8% had temporary relief. Twelve percent developed complications.

Conclusion: Self-medication with TEM or OTC drugs should be discouraged as these can cause detrimental effects on eyes.

Key Words: Drugs, Self-medication, prescription, treatment, diagnosis.

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INTRODUCTION

World Health Organization(WHO) has defined self-medication as “The selection and use of variety of medicines for self-diagnosed symptoms or illness by individuals”.¹ The practice of self-medication being a common phenomenon all over the world results in purchasing and using one or multiple medicines

without any prescription.² Hospital based studies show prevalence of 25.6% in Argentina, whereas 75% in Southern Chile.^{3,4} The magnitude of this issue is evident from the data, showing that up to 80% of unprescribed drugs are purchased in developing countries.⁵ This practice is multifactorial, driven by easy over-the-counter availability in drugstores, pharmacies, and even supermarkets, as well as the use of previously used or leftover drugs at home, and medications shared by friends, neighbors, or advised by family members.^{6,7} In developing countries, healthcare system further contributes to this practice; distance from proper health facilities, easy accessibility to quacks (non-professional healers), lack of legislation regarding dispensing drugs/medicines and financial constraints.^{8,9} Cultural and religious beliefs are in addition to these.^{10,11}

In this particular study patients presented with different eye problems using various TEM like rosewater, surma, Zamzam (holy water), honey and commercially available eyedrops or eye ointments like combination of steroid and antibiotics, antibiotics, non-steroidal anti-inflammatory drugs (NSAIDs), antiallergic and lubricants as initial treatment for their symptoms. By understanding the prevalence and types of self-medication, as well as the complications that arise, healthcare professionals can better address the risks and educate the public about the dangers of self-medication for ophthalmic issues. This information is crucial for developing strategies to reduce the incidence of self-medication and its negative outcomes, ultimately improving patient safety and eye health.

METHODS

This cross-sectional study was conducted at ophthalmology department of Al-Khidmat teaching hospital, (University of Lahore) from October 2021 to September 2022. A total of 117 patients presenting with various eye problems and using one or more eye drops or traditional eye medications (TEM) as initial treatment were included in the study. Data was collected using a semi-structured questionnaire. The main purpose of the questionnaire was to assess the nature or type of medication, duration of use of TEM and OTC eyedrops/ointments and reason for ophthalmic consultation. The interviews were conducted by the author. All patients aged 18 years and above were directly questioned. For patients below 18 years, responses were collected from the

patients themselves when possible; otherwise, the accompanying parent provided the information. The educational status of the patient was recorded; for patients under 18 years, the educational status of one of the parents was entered into the data. The study was conducted after receiving approval from the ethical review board of The University of Lahore Teaching Hospital. As no invasive procedure was involved, verbal consent was obtained from the patients after explaining the purpose of the study. The demographic factors such as age, gender, educational status and area of residence were recorded. The symptoms compelling the use of TEM/OTC or both, the source and type of medication, diagnosis and any complications that resulted due to self-medication were documented. Slit lamp biomicroscopy for anterior segment examination along with fluorescein staining for corneal lesion was performed. Intra ocular pressure (IOP) was measured using applanation tonometer when required.

Using MS Excel, the data was entered into a spreadsheet and analyzed. To represent the study results frequencies, percentages, graphs, and charts were used. After giving treatment plan, all participants were counselled about the potential harmful effects of ophthalmic self-medication.

RESULTS

Total number of patients enrolled in our cross-sectional study was 117, with 52% female and 48% male. The highest percentage of patients were in the 20-39 years age group (46.2%), followed by 33.3% in the 0-19 years age group, 16.2% in the 40-59 years age group. The demographic data is presented in Table 1. Details of symptoms for which medications were used, source of medication, drug used, complication are shown in Tables 2 and 3.

All cases of corneal ulcers were males, with presenting complaint of watering and photophobia. Three patients had used combination of steroid and antibiotics, one patient was using rosewater too and another one used leftover antibiotic. All these patients presented within one week due to worsening of the symptoms. One of the patients developed corneal oedema and vascularization along with corneal ulcer. A case of corneal abrasion presented with photophobia and watering after using antibiotic ointment bought from pharmacy, with no relief. Figure 1 and 2 show corneal abnormalities for which self-medication was done.

Table 1: Demographic characteristics of patients.

	Gender	Age Group	Level of Education	Area of Residence
Number of patients and Percentage	Male: 56 (47.9%)	0-19years: 39 (33.3%)	No education: 18 (15.4%)	Lahore and suburbs: 16 (99.1%)
	Female: 61 (52.1%)	20-39years: 54 (46.2%)	Primary level: 13 (11.1%)	Outside Lahore: 01 (0.9%)
		40-59years: 19 (16.2%)	Secondary level: 29 (24.8%)	
		60years and above: 05(4.3%)	Higher level: 57 (48.7%)	

Table 2: Symptoms -Diagnosis-TEM/Ophthalmic Medications-Source.

	Eye Symptoms that Resulted in Self Medication	Diagnosis	Self-Medication used TEM/Ophthalmic Medication	Source of Self-Medication
Number of patients and Percentage	Redness: 75 (64.1%)	Allergic Conjunctivitis: 32 (27.4%)	Rosewater: 64 (54.7%)	Family: 57 (48.7%)
	Watering:42 (35.9%)	Viral conjunctivitis: 30 (25.6%)	Steroid+Antibiotic: 37 (31.6%)	Pharmacy: 32 (27.3%)
	Itching: 38 (32.5%)	Bacterial conjunctivitis: 19 (16.2%)	Antibiotics: 23 (19.6%)	Self: 19 (16.2%)
	Discharge: 31 (26.5%)	Corneal/Tarsal FB: 10 (8.5%)	Surma:16 (13.7%)	Friends & colleagues:18 (15.4%)
	Irritation/FB sensation: 19 (16.2%)	Corneal ulcer/abrasion: 6 (5.1%)	Honey: 4 (3.4%)	Leftover: 8 (6.8%)
	Lid swelling: 14 (12.0%)	Corneal/Conjunctival tear: 5 (4.3%)	Anti-allergy: 4 (3.4%)	Quack: 4 (3.4%)
	Photophobia/blur vision: 13 (11.1%)	NLD blockage: 4 (3.4%)	Zamzam water: 3 (2.6%)	
	Pain: 6 (5.1%)	Blepharitis: 4 (3.4%)	Homeopathic: 2 (1.7%)	
		Stye/Chalazion: 3 (2.6%)	Immunosuppressant: 2 (1.7%)	
		Keratitis: 2 (1.7%)	Mustard oil: 1 (0.9%)	
		Traumatic Cataract: 1 (0.9%)		
		Subconjunctival HGE: 1 (0.9%)		
		Superglue on cornea: 1 (0.9%)		

Majority 91 (77.8%) patients visited within 1 week as the symptoms did not subside. However, chronic cases like allergic conjunctivitis and VKC presented between 1-6 months' time frame. Maximum number of patients had used medicines on the advice of family members. Educational level had no relation to self-medication practice, rather it was surprising to see that 48.7% of study population had college or university degree (higher education).

DISCUSSION

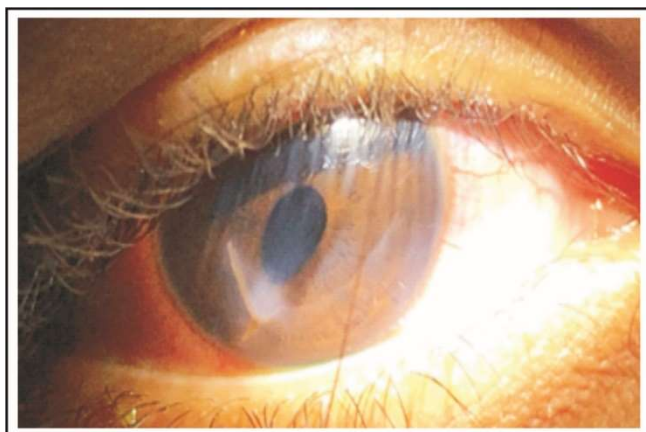
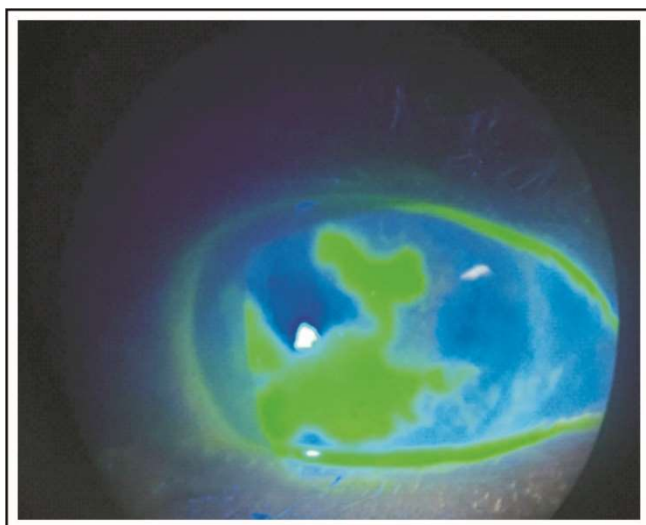
The practice of self-medication is seen all over the world and is very deeply rooted in some cultures.

Magnitude of this practice changes from developed to developing countries, indicating the perceived quality of healthcare system of a country. We often come across advertised products being used by general public who seek medical advice only when the condition deteriorates.

Risks associated with self-medication include misdiagnosis, infrequent but serious side effects or reactions, hazardous drug interactions, masking of a serious problem and sometimes the risk of dependence and abuse. In most cases, self-medication leads to a delay in correct diagnosis and delayed management of treatable conditions, with the potential risk of severe

Table 3: Reason for medical consultation, previous history and complications of self-medication.

	Presentation after Self Medications	Reason for consultation	Previous history of Self Medication	Complicated cases
Number of patients and Percentage	Within 1week: 91 (77.8%)	Temporary relief: 22 (18.8%)	Yes: 67 (57.3%)	Yes: 14 (12%)
	Within 1month: 19 (16.2%)	No relief: 64 (54.7%)	No: 50 (42.7%)	No: 103 (88%)
	Within 6months: 6 (5.1%)	Worsening: 31 (26.5%)		
	Within 1 year: 1 (0.9%)			

**Figure 1:** An 8-year-old boy with corneal tear, presented after 4 days of self-medication (Rosewater and steroid-antibiotic combination eyedrops).**Figure 2:** A 36 yrs old man with corneal ulcer (geographic), presented after 3 days of self-medication (Steroid-antibiotic combination eye drops and rosewater).

adverse reactions due to the wrong selection of therapy.^{12,13}

Eyes being delicate and important organ of human body, providing up to 80% of sensory information,

need particular attention to avoid ocular morbidities sometimes leading to visual loss and blindness.¹⁴

Ophthalmic patients are generally unaware of the side effects of eye drops and TEM, as well as the appropriate dosage, duration of treatment, and indications for use. This lack of knowledge can put their health or vision at risk of harmful pharmacological or toxicological effects.^{15,16} Similar to other developing countries, self-medication is common in Pakistan, as noted in various studies.^{17,18} In this particular study, common conditions prompting self-medication included redness, watering, discharge, itching, foreign body sensation, and blurring of vision. Similar results have been reported in other studies.¹⁹⁻²¹

The use of TEM is a common practice in Pakistan, with serious ocular damage being relatively uncommon. However, in some cases, it can lead to avoidable blindness resulting from corneal ulceration and subsequent corneal scarring.^{22,23} A study on keratitis conducted at the tertiary care teaching institute revealed that over 62.3% with infectious keratitis had sought traditional methods before presenting to the ophthalmologist.²⁴

In Pakistan, eye-drops and eye ointments do not require a prescription and topical steroids, anti-allergic, vasoconstrictors, antibiotics, lubricants and combinations are readily available over the counter without any overview of pharmacological deleterious side effects.

Steroids or steroid-antibiotic combination are most commonly used eyedrops or ointments in our study (31.6%). Similar results were reported in another study.⁸ Increase intraocular pressure, risk of infection, corneal ulceration, stromal melt and cataract are well known side effects of steroids whereas unnecessary use of antibiotics can result in bacterial resistance. Other eyedrops like vasoconstrictors may result in severe rebound vasodilation leading to excessive congestion and redness of conjunctiva.

In our study the results showed about 12% of patients developed some kind of complication and

needed ophthalmic consultation for proper management of the problem. The therapeutic benefit experienced from self-medication during previous illnesses strengthens patients' belief in its effectiveness. Additionally, myths and religious beliefs play a significant role in repeated self-medication, rather than cost or educational level.

Limitations of study include small sample size which may not be representative of the larger population. The study was conducted in a single location in Lahore, which may limit the diversity of the sample. The data was collected through self-reported questionnaires, which are subject to recall bias. Patients might not accurately remember or report the details of their self-medication practices or the symptoms they experienced. The cross-sectional nature of the study provides a snapshot in time and does not allow for the determination of cause-and-effect relationships. Longitudinal studies would be more effective in assessing the long-term effects of self-medication. Other factors that could influence the outcomes, such as patients' access to healthcare, underlying health conditions, or concurrent use of other medications were not taken into account. Further studies can address these limitations along with other relevant factors, such as patients' knowledge and attitudes towards self-medication, cultural influences, and economic factors.

CONCLUSION

Legislation regarding medication safety and its implementation is a significant public health concern in Pakistan. Pharmacies or drugstores should dispense only simple eye medications such as lubricants or tear substitutes without ophthalmic prescription. Educational efforts to raise awareness about ill effects of self-medication through different platforms are required to ensure eye health and to decrease the percentage of eye morbidity.

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Patient's Consent: Researchers followed the guidelines set forth in the Declaration of Helsinki.

Conflict of Interest: Authors declared no conflict of interest.

Ethical Approval: The study was approved by the Institutional review board/Ethical review board (ERC123/23/12).

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