

## Traditional and Self-Medication Practice for Common Eye Ailments

Sami Uddin<sup>1</sup>, Muhammad Tariq Khan<sup>2</sup>, Benish Fatima<sup>3</sup>, Ali Haris<sup>3</sup>, Sapna<sup>3</sup>, Nauman Uddin<sup>3</sup>, Fazl E Manan<sup>3</sup>

### ABSTRACT

**AIM:** To determine the use, types, and nature of traditional and self-medication practices for common eye ailments in people visiting a tertiary care hospital.

**STUDY DESIGN:** This was a descriptive cross-sectional study.

**DURATION AND SETTINGS OF STUDY:** This study was carried out at the department of Clinical Ophthalmology, Hayatabad Medical Complex (HMC) Peshawar. The duration of the study was six months from 1<sup>st</sup> September 2020 to 25<sup>th</sup> February 2021.

**METHODS:** Self-designed questionnaire was used to find out the type and frequency of traditional eye medication and self-medications among people visiting Eye OPD. It is comprised of three parts. The first part consisted of personal details; the second part included questions about traditional eye medications while the third part included questions regarding eye self-medications.

**RESULTS:** Among 113 participants, 54 (48%) were males and 59 (52%) were females. The mean age was 41.36 years. Out of all 113 participants, 56 (49.6%) participants were practicing Traditional eye medication, while 38 (33.6%) participants were practicing self-medications for their eye problems. The majority (n= 81; 72%) of the participants were married. City dwellers were 62 (55%). Among the female participants, 36 (32%) were housewives. Among males, 12 (10.6%) belonged to the labor force.

**CONCLUSION:** Traditional Eye Medication and Self- Eye Medication were in practice for various eye ailments. Such practices can cause some severe complications and irreversible blindness.

**KEYWORDS:** Traditional eye medicine; self-eye medication SEM; common eye problem.

### INTRODUCTION

Some eye ailments are minor eye problems that do not last long yet some can cause long-lasting loss of vision if left untreated.<sup>1</sup> These minor symptoms are for general reference only and are not intended to diagnose any specific condition or disease. In case of any minor eye problem like pain or changes in vision, can be a sign of serious eye problems and it might need early detection and treatment to prevent vision loss.<sup>2</sup>

Traditional eye medicines are biological-based treatments or practices that are instilled or applied to the eye or taken orally to get a desired ocular therapy.<sup>3</sup> According to WHO, 65 to 80 percent of the world health care practice believes in using traditional eye medicine. TEM has been used necessarily to manage various health-related issues.<sup>4</sup> It was stated in a report that still a huge number of people are using traditional eye medicine before going to the hospital or taking advice from a doctor.

In a study conducted in Malawi a country in east Africa, it was reported that about 33.8% of patients have corneal disease and used TEM before visiting hospitals because of certain causes like inaccessibility to ophthalmic service, ignorance of consequences, and poverty.

People use different medications for treating various ocular conditions without a prescription; which include antibiotics, anti-allergic drugs, steroids, non-steroidal anti-inflammatory drugs, herbal products, and vasoconstrictors.<sup>12</sup>

A study conducted on self-eye medications practice in Ophthalmology in the Argentinean population revealed that 25.6% of patients were using SEM for various ocular conditions.<sup>13</sup> A study performed in Ethiopia on SEM practice demonstrated that 28.6% of patients were using SEM.<sup>11</sup> various studies in Pakistan reported that 15.2%, 80.4 % 83% were using SEM.<sup>14,15</sup>

Traditional and self-medication can lead to severe complications such as corneal opacity, corneal ulceration, corneal infections, endophthalmitis, uveitis, staphyloma, vision loss, and blindness<sup>16</sup>. Therefore, such studies like ours can help make people aware of the risks associated with traditional and self-eye-medication. Several people after getting an ocular injury or surgery are involved in the installation of some traditional, un-prescribed, and potentially harmful eye medications.<sup>5</sup> A study was conducted in India in which about 25.7% of people participating in the study

### Correspondence

Muhammad Tariq Khan

Email:doctormarwat@yahoo.com

Hayatabad Medical Complex, Peshawar Pakistan

<sup>1</sup> Assistant professor, Department of Ophthalmology, Pakistan institute of community Ophthalmology, Pakistan

<sup>2</sup> Associate Professor at Hayatabad Medical Complex

<sup>3</sup> Internee Optometrist, Hayatabad Medical Complex, Peshawar, Pakistan

COI: The authors have disclosed no conflict of interest.

resorted to home remedies such as ghee, honey, kajal, and rose water.<sup>6</sup> In a study in Saudi Arabia, it was found around 9.3% of participants prefer traditional medicines as treatment including honey, kohl, ethmed, milk, lemon, ghee, water, and salt, etc.<sup>7</sup> Approximately 84% of the population of Pakistan uses traditional medicines to treat their disorders.<sup>8</sup> In Swabi, Pakistan some common home remedies are used to treat eye-related problems, which include cold water for burning and itching, alum for eye aches and swelling, Surma for minor eye injuries like nail trauma, etc.<sup>9</sup> In Abbottabad, Pakistan it is reported that the use of TEMs is significantly high. There are mainly 18 different TEMs that have been identified that are used for the redness of eyes and irritable eye conditions. Other than that, TEMs are also used for itching, burning, and various eye conditions. The study shows that people use goat milk, Surma to cure redness, clean their eyes, and also to sharpen their eye vision<sup>10</sup>.

## METHODS

A descriptive cross-sectional study was conducted in the Out-patient Department (OPD) of Ophthalmology at Hayatabad Medical Complex (HMC), Peshawar. A total of 113 participants fulfilled the sample collection criteria. The duration of the study was from September 2020 to February 2021. Ethical approval was taken from the ethical committee of the Pakistan Institute of Community Ophthalmology (PICO). The aims and objectives of this study were briefly explained to the patients that fulfilled the requirements of the sample selection criteria. Verbal consent was taken from all participants and their attendants and the participants were unable to provide consent themselves.

The data was collected from participants using a questionnaire as a data collection tool. Data was collected from the attendants for those participants who were unable to provide it themselves. At first, all questions were explained to the participants. Questions were asked in local languages such as Urdu and Pushto to make it easy for the participants to understand the questions. Participants were asked to fill out the questionnaire. Researchers filled it out for the participants, who couldn't fill it out themselves. A self-

Designed questionnaire was used to find the frequency of traditional and self-medications among patients including selected variables. It is comprised of three parts. The first part consisted of personal details; the second part included questions about traditional eye medication while the third part included questions regarding self-eye-medications (SEM). All these variables were translated into Statistical Package for Social Science (SPSS) version 22.0 database. Mean values and standard deviations were calculated for continuous variables while proportions and percentages were calculated for categorical variables. P-values were generated using the Chi-Square test for comparison of categorical variables.

## RESULTS

In this study, 113 participants were included, of which 54 (48%) were male and 59 (52%) were female. The demographic findings of participants of TEM and SEM such as age, gender, qualifications, marital status, residence, and occupation were given in table 1.

The mean age was 41.4. Of these, 24.8% were using TEM while 13.3% were using SEM. Out of 113 participants, (n=56; 49.6%) participants were practicing Traditional eye medication, while (n=38; 33.6%) participants were practicing Self-eye medication for their eye problems. The majority of the participants were married that is (n= 81; 72%). City dwellers were (n= 62; 55%). Among the female participant (n=36; 32%) were housewives. Where all males (n=12; 10.6%) belonged to the labor force. The Frequency of ocular medicines used by patients is given in Table 2. Surma and rose water were the most common TEM used by participants. Some of the participants used one or more TEM to treat their symptoms. TEM that were used by participants were Surma 36 (48%), rose water 22 (29%), organic oil 7 (9%), and honey 5 (7%). Medicines used by participants included eye drops 23 (59%), ointments 14 (36%), and oral medicines 2 (5%).

The Frequency of reasons for using traditional and self-eye medication were given in Table 3. Which TEMs were most commonly used for vision loss/ to sharpen the vision and burning sensation which is about 21.6% and 19.6% respectively. While participants used self-eye-medication most commonly for itching (n=13; 19%) and redness (n=10; 15%).

**Table 01: Demographic distribution of frequency of the participants**

Demographic characteristics		TEM n (%)	SEM n (%)	Total n (%)
Gender	Male	28 (24.8%)	15 (13.3%)	54(48%)
	Female	28 (24.8%)	23 (20.4%)	59 (52%)
Age	≤ 20 years	8 (7.1%)	9 (8.0%)	22 (19%)
	21-30 years	5 (4.4%)	8 (7.1%)	15 (13%)
	31-40 years	9 (8.0%)	6 (5.3%)	17 (15%)
	41-50 years	7 (6.2%)	5 (4.4%)	20 (18%)
	51-60 years	14 (12.4%)	6 (5.3%)	25 (22%)
	61-70 years	12 (10.6%)	4 (3.5%)	13 (12%)
	71-80 years	1 (0.9%)	0 (0.0%)	1 (1%)
Qualification	Illiterate	30 (26.5%)	14 (12.4%)	52 (46%)
	Primary	2 (1.8%)	2 (1.8%)	8 (7%)
	Matric	12 (10.6%)	5 (4.4%)	21 (19%)
	Intermediate	4 (3.5%)	6 (5.3%)	14 (12%)
	Graduation	6 (5.3%)	8 (7.1%)	12 (11%)
	Post-graduation	2 (1.8%)	3 (2.7%)	6 (5%)
Marital status	Married	44 (38.9%)	22 (19.5%)	32 (28%)
	Single	12 (10.6%)	16 (14.2%)	81 (72%)
Residence	City	28 (24.8%)	22 (19.5%)	62 (55%)
	Town\Village	28 (24.8%)	16 (14.2%)	51 (45%)
Occupation	Not working	6 (5.3%)	5 (4.4%)	16 (14%)
	Teacher	1 (0.9%)	3 (2.7%)	4 (4%)
	Labor job	7 (6.2%)	1 (0.9%)	12 (11%)
	Govt. job	3 (2.7%)	4 (3.5%)	8 (7%)
	Housewife	19 (16.8%)	12 (10.6%)	36 (32%)
	Driver	4 (3.5%)	1 (0.9%)	6 (5%)
	Farmer	8 (7.1%)	4 (3.5%)	9 (8%)
	Student	7 (6.2%)	8 (7.1%)	17 (15%)
	Self-employed	1 (0.9%)	0 (0.0%)	5 (5%)

TEM= Traditional eye medication, SEM= Self-eye medication, n=number, %= Percentage

**Table 02: Frequency of ocular medicines used by patients**

	Gender	Male n (%)	Female n (%)	Total n (%)
TEM	Surma	18 (24%)	18 (24%)	36 (48%)
	Rose water	12 (16%)	10 (13.3%)	22 (29%)
	Organic oil	2 (2.6%)	5 (6.6%)	7 (9%)
	Honey	4 (5.3%)	1 (1.3%)	5 (7%)
	Chilled water\ ice	0 (0.0%)	3 (4%)	3 (4%)
	Hot compression	0 (0.0%)	1 (2.9%)	1 (3%)
SEM	Eye drops	9 (23.1%)	14 (35.9%)	23 (59%)
	Ointment	6 (15.4%)	8 (20.5%)	14 (36%)
	Oral medicine	1 (2.6%)	1 (2.6%)	2 (5%)

TEM= Traditional eye medication, SEM= Self-eye medication, n=number, %= Percentage

**Table 03: Frequency of reasons for using traditional and self-eye medication**

Reason	TEM, n (%)	SEM, n (%)
Vision loss\ to sharpen vision	21 (21.6%)	2 (3%)
Burning	19 (19.6%)	8 (12%)
Redness	12 (12.4%)	10 (15%)
Watering	9 (9.3%)	9 (13%)
Itching	9 (9.3%)	13 (19%)
Foreign body sensation	8 (8.2%)	6 (9%)
CoSEMetic	7 (7.2%)	0 (0%)
Pain	5 (5.2%)	9 (13%)
Swelling	3 (3.1%)	8 (12%)
Tradition	3 (3.1%)	0 (0%)
Blurring	1 (1%)	0 (0%)
Discharge	0 (0%)	3 (4%)

TEM= Traditional eye medication, SEM= Self-eye medication, n=number, %= Percentage

## DISCUSSION

In our study, 56 (49.6 %) of the total participants were using TEM and 38 (33.6%) were practicing SEM for various eye ailments. This study identified that consumers had widespread access to various TEM. A study was performed in Ethiopia to assess the practice as well as associated factors among adult residents towards TEM, it showed that a high number of about 73 participants used TEM because of various misconceptions.<sup>17</sup>

Our 36 (48%) patients were using Surma to get rid of the burning sensation and redness in the eyes. Rosewater was used by (29%) of participants to get rid of red eyes

which is a common disease in developing countries. They also used rose water because of a very common old belief that it properly cleans the eyes. In our study, almost 5 (7%) participants used honey to clean their eyes. Chilled water was used by 3(4%) participants as they thought it might relax eye strain and improve circulation, and hot compresses were used by 2 (3%) participants to improve eye inflammation. Whereas 7 (9 %) participants used organic oils to prevent eye infections and reduce inflammation. They used TEM because of its flexibility, diversity, availability, and affordability. A qualitative study conducted in Pakistan concluded that the Surma was commonly used TEM for treating irritated, red eyes.<sup>9</sup>

The most common cause is the burning of eyes (n=19; 19.6%) in participants who used TEM for getting relief from burning of eyes however (n=12; 12.4%) participants reported that they used TEM to get rid of eye redness. In a study from rural India, 18.2% stated they use ocular medicines deprived of any reference from an Ophthalmologist, mostly for indications that included watery eyes (37.1%), red eyes (27.7%), burning sensation (19.2%) and eyes being infected (13.6%).<sup>6</sup>

Research conducted in Nigeria showed that males were more likely to use TEM.<sup>3</sup>

Our study shows that 30 (26.5%) participants who practiced TEM were illiterate as compared to others with some formal education. For people living in a city or village, both groups had equal involvement in the use of TEM and the number is the same which is 28 participants in both cases. A study conducted on the population who used TEM in South-eastern Nigeria showed that the majority (115, 77.0%) of participants had at least some formal education and were residing in an urban area 92 (62.0%).<sup>18</sup>

In our study, the use of TEM was more in housewives 19 (16.8%) while the Nigerian study showed the use of TEM was more in the farmers. The SEM practice was more common in females (n= 23; 20.4%).<sup>19</sup> A cross-sectional study was performed to see whether self-medication was used as a treatment using the questionnaire, it had a substantial distinction associated with gender, with men exploiting ocular medicine more repeatedly than females (p=0.004).<sup>13</sup> Young participants with ages less than 20 years (7.1%) were using SEM more often because of the fact that it is easily accessible and might give quick relief. Another research was conducted to associate the practices in which SEM was used in the treatment of ocular emergencies. Younger participants with ages less than nineteen years were using SEM 55.8% whereas adults of the ages of about sixty years were using SEM 54.1%.<sup>20</sup>

Our study showed that ophthalmic SEM was mostly practiced among those who were illiterate 14 (12.4%). A retrospective cohort study was conducted in the United States (USA) which described that ophthalmic self-medication were more common practice among the educated population.<sup>21</sup> Our study indicates ophthalmic SEM was more common among married participants than singles, as 44 (38.9%) married participants practiced it. Ophthalmic SEM was also stated to be more common among city dwellers than village dwellers based on their place of residence. Out of 38 participants who self-medicated, 22 (19.5%) participants were city

dwellers and 16 (14.2%) were village dwellers. Whereas based on occupation, it was most often practiced by housewives 12 (10.6%) followed by students 8 (7.1%) and unemployed 5 (4.4%). A population-based investigation was carried out in the United Kingdom to assess the practice of SEM through a questionnaire. The study concluded that 54.1% of young participants were practicing the use of SEM. However, not any relationship originated between religion, gender, marital status, education, and self-medication.<sup>20</sup>

Our study identified the major reasons that lead to the use of ophthalmic SEM were Itching 13 (19%) and redness of eyes 10 (15%). Kyei & Ocansey in their study reported that 26.3% had eye itching, 17.7% red eyes, 13.1% painful eyes, 10.9% watery eyes, 14.4% blur vision, 6.3% watery eyes, 4.8% headaches and 18 (2.1%) had swollen eyelids.<sup>22</sup>

## RECOMMENDATIONS

It is recommended that further studies should be conducted on a larger scale to find out the prevalence of these practices among the general population. Research should be conducted to assess the effectiveness as well as potential hazards of TEMs. Policies should be developed to monitor and control the use of medicines without professional advice and to raise public awareness regarding the potential hazards of traditional and self-medications. Primary eye care workers have a very important role to play in the prevention of blindness from TEM. They are often the first point of contact when a complication occurs with treatment and their contact with the community is important in discouraging TEM use. There is a need to send healthcare personnel and allied eye care personnel to the community health centers, and to improve and upgrade primary eye care programs in the country.

Professional healthcare workers need to educate and train the primary eye care workers, who should further inform the community about the use and abuse of self-medication and traditional eye medications.

## CONCLUSIONS

The use of TEM was equally common among both genders. The majority of TEM users were elderly people aged between 51-60 years. The use of SEM was common in younger people aged up to 20 years. Both TEM and SEM were practiced more by illiterates as compared to formally educated people.



## REFERENCES

1. Diseases | Glaucoma | Medline Plus [Internet Available from: <https://medlineplus.gov/eyedis-eases.html>
2. Goltra PS. eye symptoms. In: Goltra PS, editor. *Medcin: A New Nomenclature for Clinical Medicine*. New York, NY: Springer New York; 1997. p. 4-6. [https://doi.org/10.1007/978-1-4612-2286-6\\_3](https://doi.org/10.1007/978-1-4612-2286-6_3)
3. Kayoma DH, Ukponmwan CU. Knowledge and practice of the use of traditional eye medication in a semi-urban community. *Sahel Med J*. 2017; 20(2):59.
4. Pan SY, Litscher G, Chan K, Yu ZL, Chen HQ, Ko KM. Traditional medicines in the world: where to go next? *Evid Based Complement Alternat Med* 2014;2014. doi: 10.1155/2014/739895
5. Courtright P, Lewallen S, Kanjaloti S, Divala DJ. Traditional eye medicine use among patients with corneal disease in rural Malawi. *Br J Ophthalmol* 1994;78(11):810-2.
6. Gupta N, Vashist P, Tandon R, Gupta SK, Kalaivani M, Dwivedi SN. Use of traditional eye medicine and self-medication in rural India: A population-based study. *PLoS One* 2017;12(8).
7. Bifari I, Alkhalidi AA, Almalki RK, Mashrah HT, Asiri OA, Altwairqi AT, et al. Use of traditional eye medicine and self-medication among population of Taif City, Saudi Arabia: a cross sectional study. *Middle East J Fam Med* 2020;18(1):43-8.
8. Uttra AM, Ahsan H, Hasan UH, Chaudhary MA. Traditional medicines of plant origin used for the treatment of inflammatory disorders in Pakistan: a review. *J Tradit Chin Med* 2018;38(4):636-56.
9. Iqbal A, Orakzai OK, Ayaz M. Home remedies and traditional eye medicines used for the treatment of common eye ailments in district Swabi. *JPMI: J Postgrad Med Inst* 2012;26(4):432-8.
10. Ahmad K, Aman Khan M, Khan MB, Khan MD, Ali A, Gilbert C. Use of home remedies and traditional medicines for the treatment of common Eye ailments in Pakistan: A qualitative study. *Pak J Ophthalmol* 2009;25(1):1-7.
11. Adimassu NF, Woldetsadik ZG, Alemu HW. Proportion of ophthalmic self-medication and associated factors among adult ophthalmic patients attending Borumeda Hospital, Dessie, Northeast Ethiopia. *J Ophthalmol* 2020;2020.
12. Marquez G, Piñeros-Heilbron H, Sanchez VM, Torres VE, Gramajo AL, Juarez CP, et al. Eye drop Self-medication: Comparative Questionnaire-based study of two Latin American cities. *J Clin Exp Ophthalmol* 2014;5(2).
13. Marquez GE, Torres VE, Sanchez VM, Gramajo AL, Zelaya N, Peña FY, et al. Self-medication in ophthalmology: a questionnaire-based study in an Argentinean population. *Ophthalmic Epidemiol* 2012;19(4):236-41.
14. Bennadi D. Self-medication: A current challenge. *J Basic Clin Pharm* 2013;5(1):19.
15. Afridi MI, Rasool G, Tabassum R, Shaheen M, Shujaiddin M. Prevalence and pattern of self-medication in Karachi: A community survey. *Pak J Med Sci* 2015;31(5):1241.
16. Chughtai S, Khan MA, ul Haq MZ, Shahzad A, Hussain F, Nazar F, et al. Self-Medication amongst the university students of Multan, Pakistan-A questionnaire based survey. *Pak J Pharm Res* 2016;2:142-5.
17. Munaw MB, Assefa NL, Anbesse DH, Mulusew Tegegne M. Practice and associated factors among adult residents towards traditional eye medicine in Gondar City, North West Ethiopia. *Int J Environ Res Public Health* 2020;2020.
18. Eze BI, Chuka-Okosa CM, Uche JN. Traditional eye medicine use by newly presenting ophthalmic patients to a teaching hospital in south-eastern Nigeria: socio-demographic and clinical correlates. *BMC Complement Altern Med* 2009;9(1):1-7.
19. Ukponm wan CU, Momoh N. Incidence and complications of traditional eye medications in Nigeria in a teaching hospital. *Middle East Afr J Ophthalmol* 2010;17(4):315.
20. Carvalho RS, Kara-José N, Temporini ER, Kara-Junior N, Noma-Campos R. Self-medication: initial treatments used by patients seen in an ophthalmologic emergency room. *Clinics* 2009;64(8):735-41.
21. Aqeel T, Shabbir A, Basharat H, Bukhari M, Mobin S, Shahid H, et al. Prevalence of self-medication among the urban and rural population of Islamabad, Pakistan. *Trop J Pharm* 2014;13(4):627-33.
22. Kyei S, Ocansey S, Abu EK, Gyedu BN. Appraisal of the practice of ocular self-medication in Cape Coast Metropolis, Ghana. *Optom Reports* 2014;18;4

BN. Appraisal of the practice of ocular self-medication  
in Cape Coast Metropolis, Ghana. Optom Reports  
2014;18;4