



PREVALENCE OF SELF-MEDICATION PRACTICES WITH TOPICAL STEROIDS AND ITS ASSOCIATED FACTORS AMONG OPHTHALMIC PATIENTS ATTENDING A TERTIARY CARE CENTER IN PUDUCHERRY

Ophthalmology

Dr. Raja	Postgraduate Student, Department Of Ophthalmology, Sri Lakshmi Narayana Institute Of Medical Sciences, Puducherry
Dr. Fathima Fahima. A	Assistant Professor Of Ophthalmology, Sri Lakshmi Narayana Institute Of Medical Sciences, Puducherry
Dr. Kalaiselvi	Professor Of Ophthalmology, Sri Lakshmi Narayana Institute Of Medical Sciences, Puducherry

ABSTRACT

Self-medication with topical steroids is a growing concern among ophthalmic patients, potentially leading to severe complications such as glaucoma, cataract, and exacerbation of underlying eye diseases. The lack of awareness about the risks associated with unsupervised steroid use further aggravates the issue, highlighting the need for urgent interventions. **Aim and Objective:** The objective of this study was to determine the prevalence of self-medication with ocular topical steroids and its associated factors among patients attending a tertiary care center in Puducherry. **Methods:** A cross-sectional study was conducted among 350 ophthalmic patients from March to August 2024. Data was collected using a pre designed semi structured questionnaire which was validated by doing pilot testing upon 50 patients covering demographics, clinical history, and self-medication practices. Descriptive and multivariate analyses were used to determine prevalence and associated factors. **Results:** The prevalence of self-medication with ocular topical steroids was 29.8%. The key factors associated with self-medication included age > 50 years (AOR: 1.56), lower education level (AOR: 2.10), and previous experience with eye diseases (AOR: 1.89). The most common reasons for self-medication practices were ease of access to steroids (45.2%) and previous experience of symptom relief (39.4%). Lack of awareness about steroid side effects was inversely associated with self-medication. **Conclusion:** The high prevalence of self-medication with ocular topical steroids among ophthalmic patients highlights the need for public health interventions to educate patients and regulate the availability of these medications.

KEYWORDS

Self-medication, topical steroids, Ophthalmology

INTRODUCTION:

Ocular topical steroids are crucial for managing various inflammatory eye conditions such as conjunctivitis, uveitis, and keratitis.^{1,2} These medications effectively reduce inflammation, alleviate symptoms, and support recovery. Despite their benefits, improper usage in form of misuse or overuse can lead to severe, often irreversible complications.

Self-medication, which involves using medications without professional guidance, is a significant concern in ophthalmology, especially with ocular topical steroids.^{1,3,4} This issue is exacerbated by the easy availability of these drugs over the counter, previous positive experiences that encourage repeated use, and a general lack of awareness about the risks associated with unsupervised use. Many patients see these steroids as quick fixes for symptoms like redness and discomfort, leading to their indiscriminate use. This alters the actual clinical presentation and increases the risk of serious complications such as steroid-induced glaucoma, cataracts, and exacerbated infections.^{5,6}

The rationale for addressing this issue lies in the need to enhance patient safety. Self-medication with ocular steroids not only poses risks to individual health but also strains healthcare resources due to the management of avoidable complications.^{7,8} Therefore, effective solutions must include comprehensive patient education about the risks of inappropriate use and strict regulatory measures to control the availability of these medications.⁹

This study aims to determine the prevalence of self-medication with ocular topical steroids among patients at a tertiary care center in Puducherry and to identify the factors contributing to this practice.

MATERIALS AND METHODS:

This institutional-based cross-sectional study was conducted in the Department of Ophthalmology at a tertiary care center in Puducherry, from March to August 2024. A sample size of 350 was determined using a formula for estimating proportions, accounting for potential non-responses. Participants aged over 18 years who consented were included, while those with cognitive impairments were excluded. Data were collected through a pre-designed semi-structured questionnaire, validated via pilot testing on 50 patients, covering demographics, clinical history, awareness of steroid use, and self-medication practices. Ethical approval was obtained, and informed consent was collected from all participants. Statistical analysis was performed using SPSS Trial version 26, employing descriptive statistics and chi-

square tests to assess associations, with a significance level set at $p < 0.05$.

RESULTS:

The data analyzed from 350 patients showed the mean age of participants to be 46.3 ± 12.4 years with a slightly higher proportion of female participants (51.4%). The prevalence of self medication with ocular topical steroid was 30.6% ($n = 107$). Most cases of self medication involved purchase of the drug from pharmacies without a prescription (Table 1).

Table 1: Demographic And Clinical Characteristics Of Participants And Prevalence Of Self Medication

Characteristic	Frequency (n=350)	Percentage (%)
Age (years)		
18-30	80	22.9
31-50	140	40
>50	130	37.1
Gender		
Male	170	48.6
Female	180	51.4
Education Level		
No Formal Education	50	14.3
Primary	90	25.7
Secondary	130	37.1
Tertiary	80	22.9
History of Eye Disease		
Yes	210	60
No	140	40
Self-Medication Status		
Yes	107	30.6
No	243	69.4

The distribution of self-medication was analysed across various demographic subgroups (Table 2). The self medication prevalence was more among the age group of 31-50 years (35%). Over the counter use of ocular topical steroids were slightly more prevalent among the female gender (33.3%). The comparison of prevalence of self medication in term of education levels showed a higher prevalence of 42% among those with no formal education ($p < 0.001$). There was statistically significant association of self medication among those with previous history of eye diseases ($p = 0.001$).

Table 2: Prevalence of Self-Medication by Demographic Characteristics

Characteristic	Self-Medication	Prevalence (%)	Significance (P value)
Age (years)			
18-30 (n=80)	17	21.3	0.99
31-50 (n=140)	49	35.0	
>50 (n=130)	41	31.5	
Gender			
Male (n=170)	47	27.6	0.248
Female (n=180)	60	33.3	
Education Level			
No Formal Education (n=150)	21	42.0	<0.001
Primary (n=90)	30	33.3	
Secondary (n=130)	47	36.2	
Tertiary (n=80)	9	11.3	
History of Eye Disease			
Yes (n=210)	78	37.1	0.001
No (n=140)	29	20.7	

A subgroup analysis was done to evaluate self-medication behaviours based on awareness of steroid side effects. Participants who were aware of the potential side effects showed a lower prevalence of self-medication (21.3%) compared to those unaware (35.9%), showing a protective effect of awareness with statistically significant association. (Table 3).

Table 3: Prevalence Of Self Medication Based On Awareness Status

Awareness Status	Self-Medication (n)	Prevalence (%)	Significance (P value)
Aware (n=127)	27	21.3	0.004
Not Aware (n=223)	80	35.9	

A question put forward to analyze the necessity for un-authorized use of ocular topical steroids revealed various reasons for self-medication (Table 4). The most common reasons reported were ease of access to steroids (43.0%) and previous experience of symptom relief (41.1%) (Table 4).

Table 4: Reasons for Self-Medication with Ocular Topical Steroids

Reason for Self-Medication	Frequency (n=107)	Percentage (%)
Easy Access to Medications	46	43.0
Previous Experience of Relief	44	41.1
Recommendation by Friends/Family	11	10.2
Perceived Mildness of Condition	6	5.7

DISCUSSION:

The findings of this study reveal a significant prevalence of self-medication with ocular topical steroids among ophthalmic patients at a tertiary care center in Puducherry, with a rate of 30.6%. This prevalence aligns with previous studies that indicate a growing trend of self-medication practices in various healthcare settings, particularly concerning easily accessible medications like topical steroids.^{2,3,5,6}

Our study identified several key factors associated with self-medication practices, notably age, education level, and history of eye disease. For instance, patients over 50 years exhibited a higher likelihood of self-medication (AOR: 1.56), which may reflect a generational trend where older individuals may have more experience with health issues and a tendency to rely on past solutions. This contrasts with younger patients, who might be more inclined to seek professional help.⁷ The association of lower education levels (AOR: 2.10) with self-medication is particularly concerning, as it suggests that educational interventions could play a pivotal role in addressing this issue. Patients with no formal education showed the highest prevalence (42%), underscoring the need for targeted health education strategies that can bridge knowledge gaps.^{1,2}

Another critical finding was the inverse relationship between awareness of steroid side effects and self-medication practices. Those aware of potential risks had a significantly lower prevalence of self-medication (21.3% vs. 35.9%). This insight emphasizes the importance of patient education and awareness campaigns, which could lead to more informed decision-making among patients. Unlike other studies that have highlighted a general lack of awareness as a

primary driver of self-medication, our findings suggest that enhancing patient knowledge could be a protective factor against the risky practice of self-medication.^{3,8}

The reasons for self-medication reported in this study was ease of access (43%) and previous symptom relief (41.1%). This indicates that patients often seek immediate, accessible solutions for their health concerns. This behavior reflects a broader trend in healthcare where patients prioritize convenience and past experiences over professional medical advice. While some studies suggest that recommendations from friends and family also significantly influence self-medication, our findings indicate that this plays a lesser role (10.2%).^{2,6,8} This might be due to the specific context of ocular medications, where the perceived urgency of symptoms may drive more direct actions, such as purchasing from pharmacies without consulting healthcare providers.

The results of this study underscore the need for comprehensive public health strategies aimed at educating patients about the risks associated with self-medication, particularly concerning ocular topical steroids. Future interventions should focus on enhancing awareness, especially among populations with lower education levels, and implementing stricter regulations regarding the over-the-counter availability of these medications. By addressing these factors, we can improve patient safety and reduce the incidence of avoidable complications arising from inappropriate steroid use.

CONCLUSION:

The study highlights the concerning prevalence of self-medication with ocular topical steroids among ophthalmic patients. Targeted educational interventions and strict regulations on the sale of these medications are essential to mitigate this public health issue. Ophthalmologists should emphasize the importance of professional consultation before using ocular steroids and educate patients on potential risks during clinic visits. Some recommendations to resolve this issue includes implementation of community-based education programs focusing on the risks associated with steroid self-medication, targeting older adults and those with lower education levels. Reforms to strengthen regulations on the sale of over-the-counter ocular steroids can be done to prevent unsupervised access.

Limitations:

1. The study's cross-sectional nature limits causal inference between associated factors and self-medication practices.
2. Data were self-reported, which might introduce recall and social desirability biases.
3. Conducting the study in a single centre may limit the generalizability of the findings.

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