

Prescription Trends in the Management of Dry Eyes in the Ophthalmology Outpatient Department at a Tertiary Care Hospital, During Covid Pandemic

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ABSTRACT:

Background: During COVID-19 pandemic the measures such as widespread use of face masks, respiratory hygiene, hand hygiene, physical distancing have become essential to prevent the spread of the infection. Work from home and online classes became a part of life which significantly increased the use of digital devices resulting in a considerable increase in screen time. The increased use of face masks (N95 and surgical masks) together with prolonged hours of Visual Display Terminal (VDT) use has given rise to increased reports of dry eyes in a large number of patients, and especially is associated with the use of face mask, which has been given a term MADE (mask associated dry eye).

Objectives: To obtain data on the current prescription practice in the management of dry eye disease patients in Ophthalmology outpatients with an aim to promote awareness about the rising trend of dry eye disease and precautions to control it.

Methods: This prospective, observational, cross sectional study was conducted by the department of Pharmacology in the Department of Ophthalmology of Santosh Medical College, Ghaziabad. The prescriptions of 600 patients were recorded and analysed. The prescription details of patients who had symptoms of dry eyes (scratchy, stinging or burning sensation in eyes, redness, photophobia, watering) were noted excluding patients of cataract, surgeries or any intervention. The data was analysed using descriptive statistics.

Results: It was found that 139 of all 600 prescriptions (23.17%) had the diagnosis of dry eye disease. Out of these 139 patient 77 (55.4%) males were affected and 62 (44.65%) females were affected showing higher predisposition in males than females. The age group most frequently affected was of 21-40 years (35.25%) followed by those of 41-60 years (26.6%). The drugs prescribed to treat dry eyes were lubricant eye drops and corticosteroid eye drops, out of which lubricant eye drops was given alone in 116 patients (83.45%), followed by corticosteroid eye drops alone in 14 patients (10.07%), and a few patients 9 (6.48%) were given both corticosteroid and lubricant eye drops as they had severe symptoms.

Conclusion: The present study revealed the prescription trend in the management of dry eyes at our institute. There has been a rise in the cases of dry eyes disease associated with the use of face masks and due to excessive use of digital screens, which in turn has led to the increased use of lubricating and steroid eye drops in patients. Thus, there is a need to promote awareness regarding the appropriate use of face masks and digital devices in the community.

Keywords: prescribing trend, mask associated dry eyes, lubricants, covid pandemic.

INTRODUCTION:

With the onset of Covid 19 pandemic, the measures to control the spread of the infection had been strongly implemented all over. The use of face masks, online classes, work from home, excessive use of visual display terminals (VDT) have led to the increase in the incidence of dry eye disease and other ocular surface disorders. The symptoms of dry eye disease (stinging or burning or scratchy sensation in eyes, redness, foreign body sensation, photophobia, excess watering) were reported more frequently in Ophthalmology outpatient department of various healthcare settings. A recent study from North India reported the prevalence of dry eye disease to be 32%(1) and in the epidemiological studies performed globally, the prevalence rates of DED ranges from 5% to 50%. The prevalence of DED in India is higher than the global prevalence that ranges from 18.4% to 54.3%.(2)

Age group 21-40 years, male sex, urban region are the major predisposing factors. Hours of visual display terminal (VDT) use, cigarette smoking and contact lens usage have increased the chances of DED. Based on data from the National Health and Wellness survey, 6.8% of the United States adult population (approximately 16.4 million people) have been diagnosed with DED(1). Prevalence was not affected by education or location of residence. According to a study done at an institute in Hyderabad in 2019 (LV Prasad Eye Institute), it is estimated that based on current incidence rates, 45% or nearly half of India's urban population is likely to be affected by this condition by the year 2030, roughly translating to a staggering 275 million people. Even rural India is likely to see 17 million new patients of the dry-eye disease every year. This would make dry-eye disease a serious health concern, even more common than diseases like diabetes or heart disease.

During Covid pandemic, a scientific abbreviation MADE has come into existence that is Mask Associated Dry Eye, a term given by scientists from the Centre for Ocular Research & Education (CORE), Waterloo, Canada. (3) The use of face masks significantly reduces the outward spread of air, and if it sits loosely against the face, the likely route of the exhaled air is upwards. This forces a stream of air over the surface of the cornea, leading to corneal tear film evaporation and dry spots on the ocular surface, ocular irritation and discomfort. MADE can also cause worsening of symptoms in patients with pre-existing dry eye disease, post-menopausal dry eye, elderly people, post cataract IOL surgery cases, post Lasik cases, contact lens wearers.

In India , there has been a very few studies on the increasing incidence of dry eyes after the onset of Covid pandemic , related to the lifestyle changes and precautionary measures taken to prevent the spread of infection. Keeping these facts in consideration, this study was intended to obtain knowledge on the rising cases of dry eye disease and the use of lubricant and steroid eye drops at a tertiary care teaching hospital with an aim to promote awareness amongst medical community and population. The present study was aimed to obtain data on the current prescription practice in the management of dry eye disease patients in Ophthalmology outpatients with a focus to create and promote awareness about the rising trend of dry eye disease and precautions to control it.

MATERIAL AND METHODS:

This observational, cross- sectional study, prospective study was conducted by the department of Pharmacology in the outpatient department of Ophthalmology of Santosh Medical College, Ghaziabad. The study was conducted for a period of 1 year from July 2021 to June 2022.

The study was conducted after the approval of institutional ethics committee, and an informed consent from all patients. A sample size of 600 prescriptions of patients were taken. The patients of all age groups were considered. The prescriptions of all patients with ocular symptoms of dryness in eyes, scratchy eyes, burning in eyes, redness, watering, foreign body sensation, blurred vision, irritation in eyes were recorded and analysed. The patients who had cataracts, undergone surgeries, or some interventions were omitted from the study.

The collected data was analysed with the help of descriptive statistics using mean, frequency and percentage.

RESULTS:

Out of 600 prescriptions analysed in the study, we found 139 or 23.17% patients had dry eye disease. 77 males (55.4%) and 62 females (44.6%) were affected.

Gender Wise Distributions Eyes

Gender	Number	Percentage
Male	77	55.4
Female	62	44.6
Total	139	100

Age group distribution of dry eyes

Years	Number	Percentage
0-10	8	5.76
11-20	17	12.2
21-40	49	35.25
41-60	37	26.61
61-80	28	20.14

The age group most commonly affected was 21-40 years (35.25%), followed by 41-60 years (26.61%) and 61-80 years (20.14%). The mean age of presentation was 37.5 years.

Drug Distribution

Drugs Used	Number	Percentage
Lubricant	116	83.45
Steroid	14	10.07
Steroid + Lubricant	9	6.48

The drugs most frequently used to treat dry eye disease patients were lubricants, used in 116 patients (83.45%), followed by corticosteroid eye drops, in 14 patients (10.07%), and corticosteroid and lubricant eye drops together in 9 patients (6.48%) .

DISCUSSION:

In this study we found that 23.17% patients of 600 attending Ophthalmology OPD suffered from the symptoms of dry eye disease. This finding was similar to the finding of the study done by Pradeep Jadhav et al(16) .This finding was also similar to the finding of studies done by Suresh Pandey et al(3) and Sarfaraz Mohammed et al (17).

In our study there is a male preponderance to the disease as compared to the females. 77 males (55.4%) and 62 females (44.6%) out of total 139 patients of dry eyes were recorded. This finding was similar to the finding of study done by Suresh Pandey et al (3) and Pragnya Rao et al , but in contrast to the study done by Giannacare et al(2) (64.5% females) and Ana Marta(4) where they found female preponderance.

In our study the age group most frequently affected was 21-40 years (35.25%), the middle aged adults, followed by 26.6% in 41-60 years age group, then above 60 years and least in children. Since there was a high risk of transmission of the Covid infection, the elderly people avoided to come to hospitals, which could be a reason for their less number of cases detected .There has been a variety of symptoms in patients who have been diagnosed with dry eye disease .The symptoms most frequently seen were scratchy sensation, then burning

sensation, followed by redness in eyes, and photophobia and watering from eyes and blurred vision.

The drugs most commonly used to treat dry eyes are lubricant (Carboxymethyl cellulose, Hydroxy methylcellulose) and corticosteroid drops. In our study we found 116 patients of dry eyes were treated with lubricant drops alone (83.45%), and 14 patients were treated with steroid drops alone (10.07%) and in some patients both lubricant and steroid drops were used who had severe symptoms. They were 9 (6.48%). These findings were similar to the findings of the study done by Etty Bitton et al (14) and the study done by K. Beckman et al (15). Carboxymethylcellulose and Hydroxy methylcellulose were the main lubricant drugs used and amongst steroids Loteprednol, Dexamethasone were most commonly prescribed. Depending on the degree of severity, the type of drug was prescribed. Milder cases were advised only lubricating drops (artificial tears) , but those with more severe symptoms were prescribed corticosteroids as their anti- inflammatory action helps in controlling the pathogenesis of dry eyes.

CONCLUSION:

The study findings conclude that there has been a rise in the cases of dry eye disease in Ophthalmology Outpatient department, which has led to the increase in prescription of lubricant and corticosteroid eye drops during Covid pandemic .The increase in the screen time of people of all ages, wearing loosely fit masks, lack of outdoor activity and unhealthy diet have all contributed to the incidence of dry eyes. This can lead to poor vision and other ocular surface changes as complications. Also risk of conjunctivitis and other ocular infections increases .Thus, there is a need to promote awareness by Ophthalmologists amongst their patients and community about the appropriate use of face masks and computer screens and some lifestyle changes like more outdoor activities, a healthy diet and maintaining good hydration of body , in order to prevent and control the symptoms of dry eyes.

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