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A Study of Incidence of Dry Eye Cases in Eye OPD at Tertiary Health Care Centre

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Purpose: To know incidence of Dry eye disease in eye OPD at tertiary health care center of west Gujarat. **Method:** It was a prospective hospital based cross sectional study conducted on 2028 patients visited at tertiary health care center of west Gujarat. Patients were selected according to inclusion and exclusion criteria. All selected patients' detail history regarding symptoms, systemic illness, occupation taken. Thorough ocular examination done. After that schirmer's test was performed and results noted. **Result:** According to schirmer's test results 256 patients found to have Dry eye disease so we found Incidence of Dry eye disease 12.6%. Out of 256 patients High Incidence of Dry eye disease found in Age Group of (51-60) years(25%), Female to male ratio was 3:2; more common symptoms foreign body sensation (22%), burning (21%), Tearing (18%) and Dryness (16%) seen, Retired personals (old ages) (27%), Labourer worker (17.2%), Housewives (15.6%) and Factory Worker (13.7%) are more commonly associated occupation. In regards to schirmer's test results for severity of dry eye disease 38% eyes with mild (6-10 mm), 47% with moderate (2-5 mm) and 14% with severe (<2 mm) found. **Conclusion:** We have observed 12.6% incidence of Dry Eye Disease in Eye OPD at Tertiary Health Care Center. Dry eye disease now becoming a common ocular problem and need to make standardise diagnostic guidelines for its severity.

Keywords: Dry Eye Disease, schirmer's test, west Gujarat

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Introduction

A smooth, stable, and re-wettable ocular surface is essential for good vision and comfort. By definition, dry eye refers to disorders of the tear film due to reduced tear production and/or excessive tear evaporation associated with symptoms of ocular discomfort [1]. Discomfort related to dry-eye disease may reduce quality of life and may be more than a nuisance to many patients. As an illustration of this point, a time-trade-off utility study showed that patients with severe dry eyes were willing to trade 1.6 years of their expected 10-year longevity to be free of the condition. This is comparable to that reported by patients suffering from moderate to severe (class III/IV) angina [2]. The economic burden of dry-eye disorders is reflected in loss of productivity, number of physicians' office visits, and the multibillion dry-eye therapeutic industry. 1 out of 7 people are seen to experience symptoms of dry eye between the age group of 65 to 84 years [3]. A thorough understanding of anatomy and physiology of the ocular surface, lids and adnexa is essential for properly understanding the disease. Dry eye is a multifactorial disease of the ocular surface characterized by a loss of homeostasis of the tear film, and accompanied by ocular symptoms, in which tear film instability, and hyperosmolarity, ocular surface inflammation and damage and neurosensory abnormalities play etiological roles [4]. The prevalence of dry eye has not been determined accurately due to the lack of a single definition of the condition as well as the variability of criteria included in several studies.

Materials and Methods

This study was conducted at Eye OPD at Department Of Ophthalmology, P.D.U. Govt. Medical College, Rajkot, Gujrat, India from march 2021 to February 2022. This is prospective hospital based cross sectional study. Every 5th patient attending OPD included in the study (like. 5th, 10th, 15th etc.). Total 2028 patients included in the study as per below mentioned inclusion and exclusion criteria.

Inclusion Criteria: Patients are systematic randomly selected (every fifth patient like OPD attending patient serial no. 5th ,10th ,15th etc.) that attending EYE OPD at Tertiary Health Care Center are included in the study.

Exclusion Criteria:

1. Patients with active inflammation of the ocular surface and history of herpes simplex keratitis of less than three months duration in same eye.

2. Patients with active inflammation of the ocular Surface, an active corneal stromal infiltrate, a corneal epithelial Defect, uveitis, corneal dystrophies, corneal degeneration.

This study started after taking permission from Ethical Committee. After selection of patient, valid written informed consent taking done. Then history taking started with details history of Chief Complaints/symptoms in form of dryness, burning, itching, grittiness, foreign body sensation, tiredness, redness, inability to keep the eye open and tearing. History of any ocular pathology/ocular surgery, Occupational History, History of systemic disease like diabetes mellitus, Hypertension, Ischemic heart disease, asthma or any other and History of patient is taking any drugs.

Then visual acuity by Snellen's distance visual acuity chart are noted. Detail ocular examination done on slit lamp binocular microscope done. In slit lamp binocular microscope- examination started from lids where any abnormality in lid gland, any discharge, tear film details, condition of conjunctiva, cornea and anterior noted. With Direct ophthalmoscope in undilated pupil posterior segment examination done.

Then Schirmer's test is performed. For this test we have given instruction regarding procedure of test and impact of test result in their ocular examination. Now test is started by making an non ventilating environment as all fans and air-conditioner are switched off. Placing a sterile Whatman 41, 35 × 5 mm folded filter paper strip, over the lid margin at the junction of lateral one-third and the medial two-third of the lower lid. Amount of wetting portion in the filter paper is noted after 5 minutes in millimetres. Diagnostic value of schirmer's test is ≤10mm at 5 minutes.

Results

In this study, out of 2028 patients screened, 256 were diagnosed to have dry eye disease. The incidence was 12.6 %. More Female patients (59%) found to have dry eye than Male Patients (41%); and Female to male patients' ratio is 3:2. Age group 51-60 years (25%) were affected

More. Foreign body Sensation (22%) and burning (21%) of eye were more common symptoms. Pseudophakia having more dry disease as compare to other ocular history. Patients with Diabetes Mellitus (4.7 %) And Hypertension (2.3 %) Were found to have Dry eye disease. In order to occupations 69-Retired Personals (27%), 44-Labourer Worker (17.2%), 40-Housewife (15.6%) and 35-Factory Worker (13.7%) are major population with Dry Eye Disease. In this study according to schirmer's test results 39% mild (6-10 mm/5min), 47% moderate (2-5mm/5min) and 14% severe(<2mm/5min) Dry eye Disease seen.

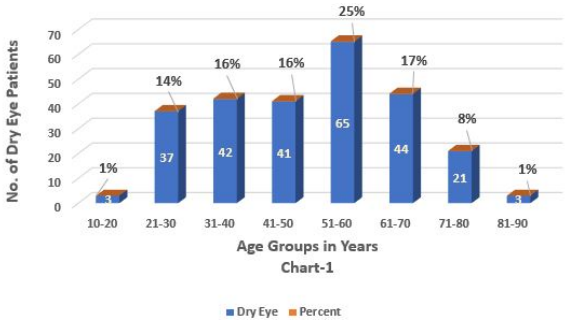

Chart-1 Show Highest Incidence of Dry eye in Age Group of (51-60) years and Lowest in age group of (10-20) years & (81-90) years.

Table 1: Symptoms with dry Eye Disease

Symptoms	No. Of Dry Eye Cases
Foreign body Sensation	57
Burning	55
Tearing	45
Dryness	42
Itching	23
Tiredness	14
Redness	13
Grittiness	7

In This study more common symptoms of dry eye are foreign body sensation (22%), burning (21%), Tearing(18%) and Dryness (16%) of eye seen.

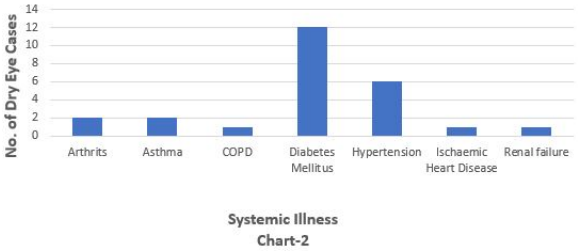

Chart 2: show in this study Diabetes Mellitus are more associated with dry eye.

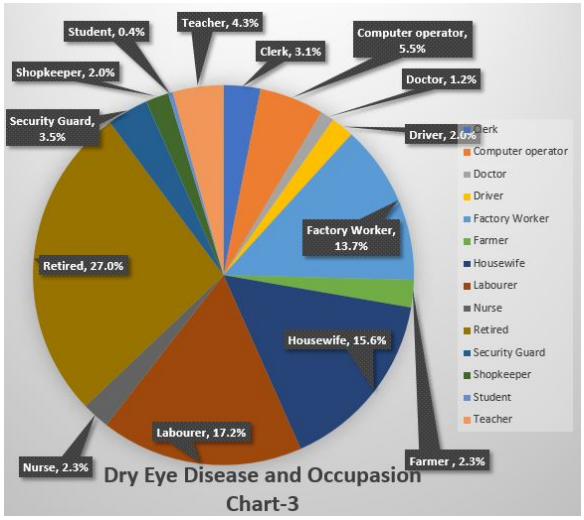

Chart 3: shows that Retired personals (old ages) (27%), Labourer worker (17.2%), Housewives (15.6%) and Factory Worker (13.7%) are more commonly have dry eye disease.

Discussion

This is the prospective hospital based cross sectional study and we have done it in west Gujarat tertiary health care Center on 2028 patients and found incidence of Dry Eye disease 12.6% among the population age group of 10-88 yrs.

In other studies, like Bhatnagar, et al. [6] (10.58%), Kimberly F. F et al. [11] (6.8%), Supiyaphun C, et al. [12] (8.15%), Reza Dana et al. [13] (5.28%) which was done on large population, incidence of dry eye disease is near to our study incidence.

In this study more Female patients (59%) found to have dry eye than Male Patients (41%) and ratio of Female to male patient for dry eye disease was 3:2. Various studies [5,9,11] also found that Female having more dry eye disease than male like this study.

Dry eye disease manifest with various symptoms which brought patients to consult an ophthalmologist. When this study compared in regards to symptomatology with Nita et al. [5], Bhatnagar, et al. [6] Kimberly F. F et al. [11] Foreign body sensation [5,6,11], Burning [5,6], Tearing [5], Dryness [5] and Itching [5,6,11] are commonly associated with dry eye disease which was found high in this study also.

A doctor is always in search to heal and make patient free from disease to enjoy nature. Dry eye disease patient came to an ophthalmologist with varying in severity of this disease. In this study we have found that most of patients have mild (39%) and moderate (47%) Dry Eye Disease. In this regard Ophthalmologist need to treat dry eye disease in these early phases of disease, so patient could spare from severe dry eye disease and related complications. With comparison to Ishrat S. et Al. [8], Shanti et Al [9], Titiyal JS et al. [10] and this study for severity of dry eye disease, we are not able to make any corelation for Dry Eye disease Severity.

Occupation is always having a clue to correlate the disease. When we compared Nita et Al [5], Bhatnagar Kr et Al [6], Bhatt R et Al [7], and this study housewives [5,6], computer operator [5,7], teachers [5], and Nurse [5] show significant dry eye disease. So we need to make awareness of dry eye disease in this occupation groups.

Conclusion

- By finding incidence we know that Dry eye disease is now becoming Emerging concern of health and wellbeing in west india
- Patients having dry eye symptoms of dry eye should screen with Schirmesr's test which is simple and easy to perform.
- There should be standardisation of methods in sense of uniformity in results and severity for Dry Eye Disease diagnosis.

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