

## Original Article

### Prevalence of dry eye disease in Kashmir population- A clinical study

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#### ABSTRACT:

**Background:** Dry eye disease (DES) is a major tear deficiency disorder which causes discomfort, visual disturbances etc. The present study was conducted to assess prevalence of dry eyes in study population. **Materials & Methods:** The present study was conducted on 548 subjects visited to the department. History of allergy to excessive wind, sunlight, high temperature, air, pollution, drug etc. was obtained. All subjects were subjected to a 13 point 'Dry Eye Questionnaire. Tear film test by slit lamp was also performed. **Results:** Out of 548 subjects, males were 300 and females were 248. Males had 40% and females had 34.7% prevalence of dry eyes. Common risk factors in subjects were contact lens in 45, allergy in 22, keratitis in 16, use of drugs in 12. The difference was significant ( $P < 0.05$ ). **Conclusion:** Dry eyes disease was common in males as compared to females. The prevalence rate in males was 40% and in females was 34.7%.

**Key words:** Contact lens, Dry eyes, Prevalence, Kashmir

Received: 28 December 2018

Revised: 10 February 2019

Accepted: 19 February 2019

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**This article may be cited as:** Dar MA, Wani EA. Prevalence of dry eye disease in Kashmir population- A clinical study. Int J Res Health Allied Sci 2019; 5(1):76 -78.

#### INTRODUCTION

Dry eye was defined as a disorder of tear film due to tear deficiency or excessive evaporation, which causes damage to the interpalpebral ocular surface and is associated with symptoms of discomfort. An unstable tear film inadequately supports the health of the ocular surface epithelium, promoting ocular surface inflammation and stimulates ocular pain.<sup>1</sup>

Dry eye disease (DES) is a major tear deficiency disorder which causes discomfort, visual disturbances, and tear film instability with potential damage to the ocular surface. The tear film and ocular surface form a complex and stable system that can lose its equilibrium through multiple disturbing factors. Despite the gain in knowledge of pathogenic factors of DES acquired in the past decades, there has been considerable discrepancy in the reported prevalence worldwide, mainly due to lack of consensus on appropriated diagnostic criteria and differences in the parameters and research methodology applied.<sup>2</sup>

Risk factors for symptomatic dry eye disease are Keratitis, allergy, contact lens, several drugs, thyroid disease, Lasik, Pterygium and smoking. Keratitis is an

inflammation of the cornea, the cornea is the outermost part of the eye that covers the pupil and iris. The most common causes of keratitis are infection and injury. Bacterial, viral, parasitic and fungal infections can cause keratitis.<sup>3</sup> An infectious keratitis can happen after an injury to the cornea. But an injury can inflame the cornea without a secondary infection occurring. People who wear contact lenses are at increased risk for infectious keratitis. Lens wear should stop immediately if a person suspects that he or she is developing an eye infection.<sup>4</sup> The present study was conducted to assess prevalence of dry eyes in study population.

#### MATERIALS & METHODS

The present study was conducted in the department of Ophthalmology. It comprised of 548 subjects visited to the department with complaint of itching in eyes. All were informed regarding the study and written consent was obtained.

General information such as name, age, gender etc. was recorded. History of allergy to excessive wind, sunlight, high temperature, air, pollution, drug etc. was obtained. All subjects were subjected to a 13 point 'Dry Eye

Questionnaire. Tear film test by slit lamp was also performed. Local anesthesia, Fluorescein strips and Slit lamp 90 D fundus examination (UV light) were also used. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

**RESULTS**

Table I shows that out of 548 subjects, males were 30 and females were 248. Table II, graph II shows that males had 40% and females had 34.7% prevalence of dry eyes. Table III shows that common risk factors in subjects were contact lens in 45, allergy in 22, keratitis in 16, use of drugs in 12. The difference was significant (P< 0.05).

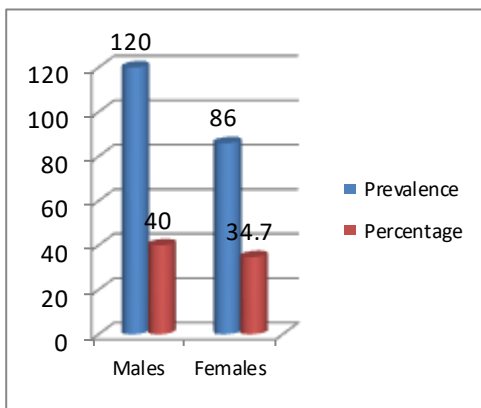
**Table I: Distribution of subjects**

Total- 548		
Gender	Males	Females
Number	300	248

**Table II: Prevalence of dry eyes**

Gender	Prevalence	Percentage
Males	120	40%
Females	86	34.7%

**Graph I:Prevalence of dry eyes**



**Table III: Risk factors in dry eyes**

Risk factors	Number	P value
Contact lens	45	0.01
Allergy	22	
Keratitis	16	
Drugs	12	
Total	95	

**DISCUSSION**

The study of dry eye syndrome is important because of increasing frequency of its occurrence, various risk factors with which disease is associated and difficulties in treatment of disease. The morbidity associated with dry eyes is related to changes in ocular surface, giving rise to a spectrum of clinical abnormalities encompassing superficial punctate erosions, corneal filaments, coarse mucus plaques, epithelial defects and in severe cases,

melting corneal ulcers.<sup>5</sup> The present study was conducted to assess prevalence of dry eyes in study population.

In present study, out of 548 subjects, males were 30 and females were 248. Choudhary et al<sup>6</sup> in their study found that out of 1178 patients, 114 patients were found to have dry eye. In this study, the prevalence of dry eye in hospital-based population in eastern Madhya Pradesh was 9.6%. Dry eye was more common in women (66.6%). Most patients in this study belonged to rural background (60.5%). Air pollution (33.3%) was found to be the most common attributable risk factor affecting most of the farmers/laborers (33.4%). In this study 43.8% patients had moderate and 39.6% patients had mild grade of dry eye.

We found that males had 40% and females had 34.7% prevalence of dry eyes. Common risk factors in subjects were contact lens in 45, allergy in 22, keratitis in 16, use of drugs in 12. S et al<sup>7</sup> found that twelve out of the 119 identified studies were included in the meta-analysis. The pooled prevalence of DES was 17.0%. Female individuals over 60 years of age had significantly higher prevalent rates (21.6%, 17.9%, 31.3%, and 34.4%, resp.) compared with their counterparts. Patients with diabetes were also found to be more vulnerable to dry eye syndrome (DES). Eye allergy occurs when something you are allergic to irritates the conjunctiva. This is the delicate membrane covering the eye and the inside of the eyelid. Symptoms of dry eyes can be more pronounced if you wear contact lenses and your contacts start to dry out, too. Contact lens discomfort can occur but is usually easily remedied. Dry eye is a multi-factorial disease of the tears and ocular surface; one such factor is the patient’s use of systemic medications. Many common systemic medications can affect ocular tissues, and medications that contribute to dry eye symptoms are present in many categories of commonly prescribed medications. Thyroid eye disease is an autoimmune condition that affects the eyes causing swelling, inflammation and sometimes visual problems. Early symptoms of thyroid eye disease are itching, watering or dry eyes and a feeling of grittiness of the eyes.<sup>8</sup>

Shaheerah et al<sup>9</sup> in their study a total of 100 patients 65 female and 35 male were diagnosed with dry eye syndrome. The age group of 21-30 years having the highest frequency of 34 patients, whereas after the 50 years of age the frequency of patients decreases to 21. Frequency of dry eye was found to be 2.4% in this study. Confirmation of the dry eyes were found in 41% of the respondents while 59% were found normal. Among all the associated risk factors 22 patients were included in allergy, 9 patients were having keratitis, 5 patients were found dry eye due to use of drugs, 1 patient was using contact lens and rest 63 were having dry eyes due to other causes which includes pterygium, conjunctivitis, blepharitis, depression and senile. A study was done in Mainland China showed alcohol, smoking, computer use, contact lens wear, and systemic or ocular medications were Risk factors for DES.<sup>10</sup>

## CONCLUSION

Dry eyes disease was common in males as compared to females. The prevalence rat in males was 40% and in females was 34.7%.

## REFERENCES

1. Lemp MA. Report of National Eye Institute/Industry workshop on clinical trials in dry eye. *CLAOJ* 1995;221–32.
2. Hikichi T, Yoshida A, Fukui Y, Hamano T, Ri M, Araki K, et al. Prevalence of dry eye in Japanese eye centers. *Graefes Arch ClinExpOphthalmol* 1995;233:559–62.
3. Khurana AK, Chaudhary R, Ahluwalia BK. A new criteria to diagnose and grade dry eye. *India Ophthalmology Today* 1993;71–3.
4. Doughty MJ, Fonn D, Richter D, Simpson T, Caffery B, Gordon KD. A patient questionnaire approach to estimating the prevalence of dry eye symptoms in patient, presenting to optometric practices across Canada. *Optom Vis Sci* 1997;74(8):624–31.
5. Albietz JM. Prevalence of dry eye subtypes in clinical optometry practice. *Optom Vis Sci* 2000;77:357–63.
6. Choudhary P, Chalisgaonkar C, Lakhtakia S, Dwivedi A, Kain S. Dry eye prevalence and attributable risk factors in the eastern Madhya Pradesh. *Int J Med Sci Public Health* 2015;4:1556-1560.
7. Moss SC, Ronald Klien MA, Borbara EK et al. Prevalence of dry eye syndrome. *Arch Oph* 2000;118:1264–8.
8. Sahai A, Malik P. Dry eye: prevalence and attributable risk factors in a hospital based population. *India J Ophthalmol* 2005; 53:87–91.
9. Shaheerah G, Adil S J, Muhammad F F. Frequency and Risk Factors of Symptomatic Dry Eye Disease at Tertiary Care Eye Hospital, Karachi. *Biostat Biometrics Open Acc J*. 2018; 4(3): 555639.
10. Guo B, Lu P, Chen X, Zhang W, Chen R. Prevalence of Dry Eye Disease in Mongolians at High Altitude in China: The Henan Eye Study. *Ophthalmic Epidemiol* 2010; 17(4): 234-241.