

Assessment of Anxiety and Depression among Patients with Dry EyesDivjot Kaur¹, Akash², Anand Aggarwal³, Gurpreet Kaur⁴, Muskan Goyal⁵¹Assistant Professor, Department of Ophthalmology, Government Medical College, Patiala²Senior Resident, Department of Ophthalmology, Government Medical College, Patiala³Professor and Head, Department of Ophthalmology, Government Medical College, Patiala⁴Senior Resident, Department of Ophthalmology, Government Medical College, Patiala⁵Junior Resident, Department of Ophthalmology, Government Medical College, Patiala

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Conflict of interest: Nil

Abstract:**Background:** The present study was conducted for evaluating for assessing anxiety and depression among patients with dry eyes.**Materials & Methods:** A total of 50 patients with presence of dry eyes since once year were enrolled. Another set of 50 subjects who reported for routine medical check-up were enrolled as healthy controls. Complete demographic and clinical details of all the patients were obtained. For evaluation of depression, Montgomery-Asberg Depression Scale (MADRS) was used. For assessment of anxiety, Hamilton Rating Scale for Anxiety was used. Both the scales were based on questionnaire pertaining to assessment of anxiety and depression. All the results were recorded and analyzed using SPSS software.**Results:** Mean age of the patients of the dry eyes group and control group was 43.5 years and 45.9 years respectively. Majority proportion of patients of both the study groups was males. Among dry eyes group, anxiety and depression were seen in 42 percent, and 52 percent of the patients respectively while among control group anxiety and depression were seen in 10 percent, and 14 percent of the patients respectively. Dry eyes patients were associated with significantly higher incidence of anxiety and depression.**Conclusion:** Depression and anxiety are more prevalent in DED patients than in controls.**Keywords:** Dry eyes, Anxiety, Depression.

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Introduction

Dry eyes, also known as dry eye disease (DED), dry eye syndrome, and keratoconjunctivitis sicca (KCS) are one of the most common reasons for a visit to an eye doctor. The definition of a dry eye according to the Tear Film and Ocular Surface Society Dry Eye Workshop II is: "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 etiologic roles." [1- 3]

A number of epidemiological studies have reported a possible association between dry eye and psychiatric disorders showing that the subjective symptoms of dry eye can be affected not only by changes of the tear film and ocular surface but also psychological factors such as anxiety, depression, schizophrenia, post-traumatic stress disorder (PTSD) and subjective happiness. Apart from psychiatric disorders, psychiatric medications are also considered as risk factors for DED due to their in-

fluence on the tear film status. [4- 6] Hence; the present study was conducted for evaluating for assessing anxiety and depression among patients with dry eyes.

Materials & Methods

The present study was conducted for evaluating for assessing anxiety and depression among patients with dry eyes. A total of 50 patients with presence of dry eyes since once year were enrolled. Another set of 50 subjects who reported for routine medical check-up were enrolled as healthy controls. Complete demographic and clinical details of all the patients were obtained.

For evaluation of depression, Montgomery-Asberg Depression Scale (MADRS) was used. [7] For assessment of anxiety, Hamilton Rating Scale for Anxiety was used. [8] Both the scales were based on questionnaire pertaining to assessment of anxiety and depression. All the results were recorded and analyzed using SPSS software. Chi-square test was used for evaluation of level of significance.

Results

Mean age of the patients of the dry eyes group and control group was 43.5 years and 45.9 years respectively. Majority proportion of patients of both the study groups was males. Among dry eyes group, anxiety and depression were seen in 42 percent,

and 52 percent of the patients respectively while among control group anxiety and depression were seen in 10 percent, and 14 percent of the patients respectively.

Dry eyes patients were associated with significantly higher incidence of anxiety and depression.

Table 1: Demographic data

Variable	Dry eyes group		Control group	
	Number	Percentage	Number	Percentage
Males	28	56	31	62
Females	22	44	19	38
Mean age (years)	43.5		45.9	

Table 2: Prevalence

Variable	Dry eyes group		Control group		p- value
	Number	Percentage	Number	Percentage	
Anxiety	21	42	5	10	0.002*
Depression	26	52	7	14	0.001*

*: Significant

Discussion

Dry eye disease (DED) is a multifactorial disorder representing one of the most common ocular morbidities and a significant public health problem. It often results in eye discomfort, visual disturbances and potential damage to the corneal surface affecting quality of life (QOL). In recent years, the relationship between DED and psychiatric disorders has been gaining attention. The incidence of ocular side effects increases rapidly with the use of polypharmacy, a very common form of treatment used in psychiatry. There is often inconsistency between signs and symptoms of DED, where symptoms often are more related to non-ocular conditions including psychiatric disorders than to tear film parameters. [7- 10] Hence; the present study was conducted for evaluating for assessing anxiety and depression among patients with dry eyes.

Mean age of the patients of the dry eyes group and control group was 43.5 years and 45.9 years respectively. Majority proportion of patients of both the study groups was males. Among dry eyes group, anxiety and depression were seen in 42 percent, and 52 percent of the patients respectively while among control group anxiety and depression were seen in 10 percent, and 14 percent of the patients respectively. Wan KH et al evaluated the association of dry eye disease (DED) with depression and anxiety. They conducted a systematic review and meta-analysis of studies that reported the prevalence, incidence and/or severity grading of depression and/or anxiety in DED patients and healthy controls. They searched MEDLINE, EMBASE, PsycINFO, ClinicalTrials.gov, and World Health Organization International Clinical Trials Registry Platform for relevant studies. Twenty-two eligible studies consisted of 2980026 patients were ana-

lyzed. DED was associated with an increased prevalence of depression and anxiety. The depression score and anxiety score were higher in DED patients than in controls. Subgroup analyses revealed that the prevalence and severity of depression are greatest in primary Sjogren's syndrome patients. [11]

Dry eyes patients were associated with significantly higher incidence of anxiety and depression. Studies evaluating the association between autoimmune related dry eye and mental health mainly focus on patients with Sjogren's syndrome as the main representative of this group compared to the general population with no underlying systemic diseases. A significantly higher prevalence of mental health disorders has been consistently demonstrated in pSS patients as compared to the general population. Wan et al. conducted a systematic review on association of dry eye disease with depression and anxiety. Of the 22 studies that were included in their review, 14 were focused on pSS patients. Studies relied on an assorted number of self-administered psychiatric questionnaires in order to affirm the presence and severity of depression and anxiety. Subgroup analysis in patients with pSS showed a higher prevalence of depression (OR = 4.25) and anxiety (OR = 2.67) when compared to matched controls. They reported that prevalence and severity of depression was higher in patients with Sjogren syndrome as compared to healthy individuals with non-Sjogren dry eye. A later study in Chinese population found 33.8% of pSS patients had anxiety and 36.9% suffered from depression. [12-14]

Another study reporting the incidence and structure of anxiety-depressive spectrum disorders in patients with various rheumatic diseases included 180 patients with a reliable diagnosis of SLE, 128 with

RA, 110 with systemic sclerosis, 115 with Behcet's disease, and 80 with primary Sjogren's syndrome. They used a semi-structured interview in accordance with the ICD-10/DSM-IV in addition to self-administered questionnaires for the diagnosis of mental health disorders. In accordance with the ICD-10/DSM-IV, depressive disorders were identified in 63% of patients overall, including 73% of patients with RA, 50% of patients with SLE, and 49% of pSS. Anxiety disorders were reported in 61.5% of patients overall, including 25% of patients with pSS, 24.5% of patients with SLE and 23% of patients with RA. This highlights the high prevalence of psychological disorders in autoimmune diseases. [12- 14]

Conclusion

Depression and anxiety are more prevalent in DED patients than in controls.

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