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Opinion

Dry Eye Disease: The Undervalued Impact on Quality of Life

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Abstract

Dry eye disease (DED) is one of most common ocular disease and reason for primary eye care visit worldwide. Besides ocular discomfort, visual disturbance is also a common symptom reported by patients with this disease. The symptoms may vary from mild to severe degree which can affect daily activities and quality of life. Studies have shown that DED interfered with reading and driving ability and associated with increased anxiety, stress and depression. Thus, DED should be considered as an important public health problem deserving increased attention. Unfortunately, the attention towards DED amongst eye professionals is still somewhat low in general. It has become a necessity to increase awareness and continue to carry out studies that will expand our understanding, support the innovation of new treatment, and improve patient's quality of life. Simply throwing artificial tears to the patients expecting that it would immediately ease their symptoms is no longer acceptable. Patients with DED should be assessed comprehensively and treated as a whole, not merely "eyes that are not wet enough".

Keywords: Dry eye disease; Quality of life; Quality of vision; Visual disturbance

Opinion

Dry eye disease (DED) is one of most common ocular disease and reason for primary eye care visit worldwide. DED has gone through major evolutions over the past couple of decades. As stated in the latest DEWS II report in 2017, the definition of DED is now "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" [1].

Prevalence of DED based on symptoms ranged from 14.5% to 39.2% in various countries [2-5]. This may still be an underestimated number as there are many who have symptoms but do not seek medical care. However, the reason behind the general increase in dry eye remains a question as it is not completely known if there is a true increase in prevalence or improved sensitivity to diagnosis.

Lifestyle changes which include increasing screen time activities, diets poor in omega-3 fatty acids, and increased number of refractive treatments (contact lens wear, laser vision correction and cataract surgery) may play a role [6]. Moreover, recognition of autoimmune diseases which are associated with DED such as Sjogren disease, rheumatoid arthritis, and thyroid disease may lead to improved diagnosis and management.

Dry eye complaints are frequently encountered by all ophthalmologists. Symptoms and signs of DED can be one of the most common causes of patient dissatisfaction during medical visits.6 Generally, patients with DED may experience ocular discomfort including pain, burning sensation, foreign body sensation, grittiness, and tearing. Others may complain of dryness, ocular fatigue, and sometimes redness [7,8].

Visual disturbance is also a common symptom reported by patients with this disease. People with DED often report visual disruption such as glare, fluctuating and foggy vision; often despite normal visual acuity. Reduction in visual function can be measured by several methods including questionnaires, contrast sensitivity tests, functional visual acuity (FVA) tests, and measurement of higher-order optical aberrations (HOA) [9]. The symptoms of visual disturbance may vary from mild to severe degree which can affect daily activities including physical, social, psychological functioning, and workplace productivity [9-12].

Consequently, DED has become a growing public health concern that interferes with many different aspects of quality of life. DED is associated with adverse impact on several common and important tasks of daily living, emotional well-being, and the ability to work [13,14]. The impairment of vision-related quality

of life has significant correlation with the severity of the disease [15]. Numerous studies have been performed to better understand the effect of DED towards quality of life. One example of how DED affects daily living is that it interferes with reading ability. Ridder et al demonstrated that reading rate was lower in subjects with DED. As severity of the disease increased, the reading rate decreased. This finding is consistent with patient-reported symptoms and provides direct evidence for the impact of DED on reading performance [16].

Degradation of optical qualities related to DED is also associated with visual impairments during driving. The average response time was significantly increased in patients with DED. Their visual function was even more impaired in specific situations, such as crossroad or roundabout approaches [17]. Furthermore, reports have demonstrated that DED is also related to depression. Patients with DED had impaired vision-related quality of life and this impairment was correlated with anxiety and depression [18,19]. Another study in women with dry eye symptoms demonstrated a close association between depression, stress, and DED [20]. The impact of tear film-related visual disturbance on activities of daily living and mental health in patients with DED has been objectively demonstrated in all the aforementioned studies. Hereafter, DED should be considered as an important public health problem deserving increased attention.

Unfortunately, the attention towards DED still seems to be low in general. A study by Graham et al indicated that the interest in the issue of dry eye is very much limited among ophthalmologists and optometrists [21]. Their study demonstrated poor participation in the questionnaire used to survey attitudes towards diagnostic tests and treatments of DED. It is highly likely that major eye professionals in general would give similar responses. DED is often considered as a "difficult" disease due to its dynamic and multifactorial nature. Treatments sometimes require not only medications, but also understanding the symptoms and counseling on how it affects patient's quality of life. The complexity of DED makes it gather little attention compared to other diseases which are "simpler" to treat.

Therefore, it is necessary to increase our awareness of DED and improve our practice in dealing with dry eye patients. It is also indispensable to continue studies which will help our understanding of this disease and support the innovation of new treatment. Incorporating vision-related quality of life into the study would provide further explanation, for example the effect of treatments towards quality of vision. Given the available knowledge on how DED interferes with patient's vision-related quality of life, it is no longer acceptable to simply throw the next brand of artificial tears to the patients hoping that it would immediately ease their symptoms. Ophthalmologists are urged to assess DED comprehensively and treat the patients as a whole, from symptoms and signs on their eyes to activities of daily living and vision-related quality of life, not merely "eyes that are not wet enough".

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Conflict of interest

No conflict of interest.

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