Sleep and ocular manifestations: A current review

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ABSTRACT
The relationship between sleep disorders and ophthalmic conditions has been increasingly studied, particularly in the case of obstructive sleep apnea (OSA).

Keywords: Eye disease, Eyelid diseases, Sleep.

1 INTRODUCTION

The relationship between sleep disorders and ophthalmic conditions has been increasingly studied, particularly in the case of obstructive sleep apnea (OSA). Although conflicting, associations between OSA and conditions such as glaucoma, papilledema, diabetic retinopathy, central serous chorioretinopathy, and keratoconus have been widely reported. Therefore, the aim of this study was to identify evidence in the literature regarding the relationship between eye disorders and sleep disorders, as well as to provide recommendations.

This is an integrative review based on publications from the PubMed portal. Selection was conducted using MeSH terms 'Eye Disease,' 'Eyelid Diseases,' 'Sleep,' 'Sleep Apnea, Obstructive,' combined with Boolean operators 'AND.' Articles published in English between 2013-2023 were included.

There is a growing body of evidence regarding ocular health and sleep disorders. During sleep, closed eyelids provide a mechanical barrier between the ocular surface and the external environment. Rapid eye movement (REM) and other factors contribute to the maintenance of physiological aqueous humor flow, supplying nutrients to the cornea. This is in contrast to reduced tear production during prolonged eye closure, accompanied by an increased anaerobic metabolism of corneal tissue. Poor sleep habits and sleep

disorders can significantly affect ocular health and may exacerbate the risk of eye diseases. Poor sleep habits have been associated with an increased risk of myopia.

The most significant body of evidence links various ophthalmic conditions to obstructive sleep apnea (OSA), including floppy eyelid syndrome, glaucoma, non-arteritic anterior ischemic optic neuropathy, papilledema, keratoconus, and central serous chorioretinopathy. Ophthalmologists should be aware of sleep-related eye disorders and refer patients appropriately for formal sleep studies. Sleep abnormalities in blind patients should also be addressed, and patients should be evaluated and treated by a sleep physician.