

Sleep Disorders in Dry Eye Disease

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Background: Dry eye disease (DED) is a multifactorial, complex and chronic disease that affects tear and ocular surface and causes damage to the ocular surface. Previous studies have shown that patients with DED have a higher prevalence of sleep disorders, however, all those studies have been carried out using questionnaires without conducting a structured clinical interview nor objective tests that could establish which sleep pathologies are involved in DED.

Methods: We prospectively recruited subjects older than 18 years with untreated DED, without other known ocular or sleep disorders, participants using antidepressant medication, benzodiazepines and hypnotics were excluded. Each participant has undergone to a structured interview about sleep disorders, measurement of Vision Break up time (BUT), ocular osmolarity, Schirmer Test, ocular hyperemia, corneal staining with fluorescein, they answered the Ocular Surface Disease Index(OSDI) questionnaire, Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale, Insomnia severity index (ISI) and STOP-Bang. Then they underwent to an 2 weeks actimetry, a sleep diary and finally a videopolysomnogram.

Results: We recruited 38 participants , 30 finished the study, 73.3% were women and 26.7% men, mean age was 49.5 years, in clinical interview approximately 77% of participants met the diagnostic criteria for primary chronic insomnia, mean PSQI and ISI were high($10,2 \pm 4,05$ and $13,17 \pm 6,30$ respectively), the rest of the questionnaires had results within the normal range. Sleep diaries showed an increase sleep latency and a decrease of sleep efficiency, actimetric values were normal, the polysomnogram showed a mild decrease in total sleep time($368,58 \text{ min} \pm 72,96$), increase in wake time after sleep onset ($69.33 \text{ min} \pm 55.98$)and one patient was diagnosed with nocturnal lagoophthalmos. After finishing the data collection we found that 83.3% of the participants have some sleep pathology, most prevalent pathology is chronic insomnia (70% of cases) that does not have a correlation with a decrease in total sleep time in actimetry.

Conclusions: In conclusion, the vast majority of participants had some sleep pathology, the most common being primary chronic insomnia, this finding is higher than expected in the general population, it should be noted that rare pathologies such as nocturnal lagoophthalmos were diagnosed in a small population.