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[Influence of screen brightness on reading in dry eye patients]

[Article in French]

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Abstract

Purpose: This study examines the impact of dry eye on screen reading, with an emphasis on glare and visual comfort for patients.

Population and methods: We recruited ten patients with dry eye and nine healthy controls. Clinical signs of dry eye were quantified to determine the quality of the tear film and corneal aberrations. Questionnaires related to quality of life and light sensitivity were administered. All participants underwent a screen reading test under five different levels of brightness.

Results: Patients with dry eye presented with more significant ocular inflammation (Oxford score) and reduced tear breakup time (BUT; DED: 4.1s, CO: 11.8s; W=90, P<0.001) compared to the control population. Patients also exhibited impaired quality of life (OSDI score: CO: 15.044±9.16, DED: 38.150±18.66, P=0.004) and increased light sensitivity (Glare test: CO: 96.56±65.5 arc.min, DED: 204.1±82.5 arc.min, W=15, P=0.013; VLSQ score: CO: 16.44±4.85, DED: 22.0±6.34, P=0.049). Reading tests did not show a significant difference between the groups (CO: 155±23.3 words/min and DED: 149±28.0, F=1.935, P=0.169). Brightness did not influence reading speed (F=1.308, P-value=0.275). A correlation was observed between reading speed and the OSDI quality of life questionnaire (R=-0.7, P=0.043).

Conclusion: Although screen brightness did not have a significant impact on reading speed, glare proved to be a major issue for patients with dry eye. The associations between clinical manifestations of dry eye and reading performance emphasize the importance of comprehensive management of this condition. The results suggest that dry eye can influence both quality of life and screen reading, highlighting the need for dedicated approaches to improve the visual comfort of patients.

Keywords: Computer vision syndrome; Dry eye disease; Glare; Lecture; Reading; Syndrome de la vision liée à l'ordinateur; Sécheresse oculaire; Éblouissement.

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