Prevalence and determinants of computer vision syndrome in Portuguese workers

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Statement of the Problem: The prolonged use of Video Display Units (VDU) affects the visual health of individuals, who might complain of symptoms grouped as Computer Vision Syndrome (CVS). The aim is to estimate the prevalence of CVS and evaluate its relationship with potential risk factors.

Methodology: A cross-sectional epidemiological study was carried out in 280 Portuguese workers recruited from the University of Minho (Portugal). Sociodemographic information, general and ocular health, optical correction, exposure to VDU and symptoms of CVS were collected. CVS prevalence was calculated for each variable and category; differences between groups were assessed using $\chi 2$ test. Crude (ORc) and adjusted (ORa) Odds ratios were calculated plus 95% confidence interval (95%CI).

Findings: The mean age (±SD) of the sample was 45.38±10.24 years; 56.1% were women. 40.4% had some systemic pathology (mostly allergies and hypertension). 18.9% presented some past ocular disorders (mainly conjunctivitis). 72.9% wore glasses and 68.6% used VDU>6 hours/day in the workplace. The prevalence of CVS was 60%; the most frequent symptoms were feeling that sight is worsening (72.5%), headache (62.8%), and difficult focusing for near vision (62.1%). Differences in prevalence were observed by sex ($p<0.001$), systemic pathology ($p=0.011$), past ocular pathology ($p=0.05$) and use of glasses ($p=0.037$). After adjusting for sex, age, systemic and ocular pathology, and use of glasses; women were two times more likely than men to suffer from CVS (ORa: 2.38; 95%CI: 1.43 – 3.95).

Conclusions: The prevalence obtained in our study is high, but lower than that obtained in the only research found in Portuguese population assessing CVS, although their sample is much smaller than ours. Portuguese women are twice likely to suffer from CVS, similar results to those obtained in other countries. It is recommended that Portuguese workers, especially women, have regular eye examinations, to detect CVS as early as possible.

Recent Publications

1. Coles-Brennan C, Sulley A, Young G (2019). Management of digital eye strain. *Clin Exp Optom* 102:18-29.
2. Sheppard AL, Wolffsohn (2018). Digital eye strain: prevalence, measurement and amelioration. *BMJ Open Ophthalmol* 3: e000146.
3. Seguí MM, Cabrero-García J, Crespo A, et al (2015). A reliable and valid questionnaire was developed to measure computer vision syndrome at the workplace. *J Clin Epidemiol* 68:662.
4. Sánchez-Brau M, Domenech-Amigot B, Brocal-Fernández F, et al (2020). Prevalence of Computer Vision Syndrome and its relationship with ergonomic and individual factors in presbyopic VDT workers using progressive addition lenses. *Int J Environ Public Health* 17:1003.
5. Dzhodzhua V, Serranheira F, Leite ES, et al (2017). Visual demands and visual fatigue among ophthalmologists. *Rev Bras Med Trab* 15:209-216.

Biography

Natalia Cantó Sancho is graduate in Optics and optometry and masters in advanced optometry and visual health from the University of Alicante (UA). She is currently in her final year as a PhD student in the PhD programme in Health Sciences at the UA, in the line of research on occupational health. She has a pre-doctoral research contract in the Department of Optics, Pharmacology and Anatomy, which allows her to combine research with teaching. Her main line of research is the translation, cultural adaptation and validation of the Computer Vision Syndrome Questionnaire (CVS-Q©), originally designed and validated in Spanish, to other languages such as Italian, Slovak, English, Portuguese, Chinese, among others. But he also participates in other research related to the prevalence of the syndrome in other countries and in other populations (e.g. university students) and in research related to dry eye within the public health group of the UA.

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