ABSTRACT

Workplace Illuminance and Visual Complaints among Administrative Workers: A Cross-Sectional Study Using the CVSS17

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Background: Administrative workers frequently use computers for prolonged periods, potentially contributing to visual complaints. Inadequate workplace illuminance may affect visual comfort, but evidence linking measured illuminance to standardized visual symptoms remains limited.

Objective: To assess the association between workplace illuminance and CVSS17 symptoms.

Research Methods/ Implementation Methods: This cross-sectional study was conducted at a government office in Samarinda, East Kalimantan, Indonesia, in August–September 2026. Forty employees were purposively selected for computer use, >1 year of work experience, and presence during data collection. Illuminance was categorized as <300 or ≥300 lux. CVSS17 outcomes were classified as early symptoms (Levels 1–2) or moderate-to-severe symptoms (Levels 3–5); only Level 3 symptoms occurred in the latter category. Analyses included Spearman correlation, linear regression, Fisher's exact test, prevalence ratio (PR), and odds ratio (OR).

Results: Level 3 symptoms were more prevalent in the <300-lux group than the ≥300-lux group (30.0% vs. 15.0%). The PR was 2.00 (95% CI: 0.58–6.91) and the OR was 2.43 (95% CI: 0.51–11.51; p=0.451). Illuminance showed a weak inverse correlation with CVSS17 score (rho=−0.080, p=0.622); the regression slope was −0.059 points per 100 lux (95% CI: −0.599 to 0.481; p=0.825). The higher observed prevalence of Level 3 symptoms under lower illuminance was accompanied by wide confidence intervals and a near-zero correlation between continuous measures. These findings remain inconclusive, and unmeasured factors, including screen exposure duration and ocular conditions, may have influenced the results.

Conclusion/Lesson Learned : The findings do not establish a statistically significant association. Larger studies should incorporate standardized lighting measurements and relevant occupational and ocular factors.

Keyword : workplace illuminance, visual complaints, administrative workers, CVSS17, occupational health