ILUMINATION LEVELS AND EYESTRAIN IN WORKERS FROM A PHARMACEUTICAL COMPANY IN MEXICO CITY

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INTRODUCTION

- There are few studies about eyestrain or asthenopia in the Mexican and international pharmaceutical industry.
- Eyestrain or asthenopia is considered as an expression of visual fatigue, through the following ocular symptoms: burning, pain, itching, gritty feeling, redness, tearing and headache.

THEORETICAL FRAMEWORK

- Myopia
- Hiperopía
- Astigmatism

METHODS

- We performed a cross-sectional study of 34 workers from a conditioning area.
- Lighting levels were measured at the workplace with Luxmeter Mercher Model 05860.
- The light meter was adjusted and operated at the beginning and during the evaluation.
METHODS

- The reflection factor was also evaluated.
- A visual fatigue questionnaire was applied to the workers and a visual examen was performed.
- Frequencies and the odds ratio for the illumination and visual complains were calculated with the SPSS program.

RESULTS

- A 69.69% of workers in the conditioning area were women.
- The average age in both men and women was between 41 and 50 years old, with a seniority length from 3 to 12 years.
- A 75% of workers used lenses with graduation and 76.93% of workers have an average of 1 to 10 years with a visual impairment.

RESULTS

- Illumination levels in the conditioning area
  87.87% of workers felt that the lighting was adequate in the conditioning area.
  According to the study of lighting in five of the eight lines the levels were below the recommended level of 200 lux not optimal according to NOM-025-STPSS-2008).
  Reflection levels were within the norm in the different lines.

RESULTS

- Association between lighting and visual fatigue symptoms

  Workers with low illumination levels had significant increased risk of having visual complains such as:
  - Eyelid twitch (OR= 22.16)
  - Headaches (OR= 12.8)
  - Eye redness (OR= 10.2)
  - Itching (OR= 12.7)

RESULTS

- Symptoms of fatigue and visual disturbances

  Two the most frequent symptoms were:
  - Headache with a prevalence of 51.52%
  - Redness and burning eyes with a prevalence of 54.55%.
  - The 57.57% of workers had at least 3 symptoms of eye strain.
  - Visual disturbances more common in these workers were:
    - Astigmatism and myopia (12.1%),
    - Compound Myopic Astigmatism (12.1%),
    - Astigmatism (33%),
    - Myopia (12.1%) and
    - Myopia and presbyopia (9.1%).

DISCUSSION

- Based on this study results we can conclude that workers visual fatigue symptoms in the conditioning department is related to low levels of illumination.
- Workers with visual problems such as astigmatism, myopia, compound myopic astigmatism, and an inadequate workplace have a higher eye accommodative asthenopia or eye strain.
- If this situation is not solved, it may impact in workers health and company's productivity.
REFERENCIAS


THANK YOU

SATISFACTION AT WORK IS A FEELING OF BEING, OR HAPPINESS SELF-PLEASURE WORKER IN RELATION TO THEIR WORK.