

# Assessment of quality of sleep and sleepiness in workers with rotating shifts

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**Abstract.** The study aims to evaluate the sleep quality and presence of daytime sleepiness in workers.

Keywords: Industry; Organization; Accident

## 1. Introduction

There are hundreds of years, workers have been subjected to non-standard hours of work, being assigned to rotating shifts and night, that are organized without taking into account the physical and psychosocial workers. The temporal organization of work in night shifts and has important impacts on the physical well-being, mental and social workers<sup>[1]</sup>. Among these impacts can be noted sleep disturbances and mood-related problems. In a study involving 1,965 American workers found that associations between sleep disorders and job stress were more complex than expected<sup>[2]</sup>. The study aims to evaluate the sleep quality and presence of daytime sleepiness in workers.

## 2. Methods

We studied 94 volunteers, men ( $n = 75$ ) and women ( $n = 19$ ), between 18 and 65 years, a company in the field of pulp and paper, working in rotating shifts for at least two months. All workers completed questionnaires, adapted and validated in Brazil, as the index of the Pittsburgh Sleep Quality (PSQI)<sup>[3]</sup> and Epworth Sleepiness Scale (ESS-BR)<sup>[3]</sup> and the Scale of Stress at Work<sup>[4]</sup>. In addition, the diseases diagnosed by a doctor of workers were raised. We obtained approval of the Ethics and Research, under Protocol No. 13528712, CAAE 0060.0.186.000-10.

## 3. Results

The mean age was  $31.26 \pm 7.09$  years, the time function is  $2.08 \pm 0.14$  years. Approximately 63.1% of women experience poor sleep quality and 26.3% have some type of sleep disorder. When comparing these results with the presence of daytime sleepiness was observed that 60% of the female groups of sleep disturbance have some kind of daytime sleepiness, which show as poor sleep quality, 50% report some kind of daytime sleepiness. Only 10.5% of women have good sleep quality and no reference to daytime sleepiness. As for men, 64% have poor quality of sleep and 12% have a sleep disorder. Men with sleep disorders, 22.3% have some sort of drowsiness in the male group with poor quality of sleep, 37.5% have some kind of drowsiness Men who reported good sleep quality represent about 20% of the sample, whereas 22.2% indicate excessive daytime sleepiness.

## 4. Discussion

After analyzing the data the results shows that rotation of shifts there is poor quality of sleep, between workers of both genders, considering the short period of time in which they function. It was not possible to compare the results between the sexes, due to the number of the male sample. The pathologies were

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diagnosed in greater proportion relative to induce sleep-related problems and stress, but contrary to previous studies seems to be no relationship between presence of indicators of stress and sleep-related problems, indicating the need to find the specific type of each indicator.

## References

- [1] Moreno, Claudia Roberta de Castro; Fischer, Frida Marina; ROTENBERG, Lúcia. A saúde do trabalhador na sociedade 24 horas. São Paulo Perspec., São Paulo, v. 17, n. 1, mar. 2003.
- [2] Knudsen, Hanna K.; Ducharme, Lori J.; Roman, Paul M. Job stress and poor sleep quality: Data from an American sample of full-time workers. University of Georgia, Athens, GA, USA: Social Science & Medicine 64 (2007) 1997-2007.
- [3] Bertolazi, Alessandra Naimaier. Tradução, adaptação cultural e validação de dois instrumentos de avaliação do sono: Escala de Sonolência de Epworth e Índice de Qualidade de Sono de Pittsburgh. Porto Alegre: UFRGS, 2008. Dissertação (Mestrado).
- [4] Paschoal, Tatiane; Tamayo, Álvaro. Validação da escala de estresse no trabalho. Estud. psicol. (Natal) [online]. 2004, vol.9, n.1 [citado 2011-05-30], pp. 45-52 . Disponível em: <<http://www.scielo.br>