



Scientific letter

Quality of sleep, stress and diurnal somnolence of hospital and outpatient emergency professionals[☆]



Calidad del sueño, estrés y somnolencia diurna en profesionales de urgencias hospitalarias y extrahospitalarias

Dear Editor,

Sleep is a fundamental to ensuring humans maintain a proper physical and mental state.¹ Among other factors, sleep quality is related to stress, to which health emergency personnel are continually exposed.² The working hours of these professionals is usually structured in shifts (8–12-h long) in hospital emergency rooms and being on-duty for 24-h in outpatient emergencies, and is characterised by the absence of rest or small fragmented breaks and high levels of stress, which is a problem when trying to maintain quality sleep habits when off-duty due to the alteration of circadian rhythms, contributing to greater daytime drowsiness.¹

As we did not find any studies that compared the differences between hospital emergency and outpatient hospital professionals, we put forward the objectives of analysing sleep quality, stress and drowsiness among these services and exploring its association with sex and levels of optimism.

An observational cross-sectional study was conducted between April and June 2017. We included 78 nurses, doctors, nursing assistants and emergency technicians, covering the entire Emergency Service of La Vega Hospital and two ambulance bases from the Region of Murcia. We studied sociodemographic variables such as gender, age, service in which the professionals worked, years' professional experience, level of optimism with regard to work on a scale of 1 (most pessimistic) to 5 (most optimistic) and the perception of whether the sleep quality affects work. We used the

Pittsburgh Sleep Quality Index (PSQI³) to evaluate sleep quality; to evaluate drowsiness, the Epworth scale,⁴ and for stress, the *Student Stress Inventory-Stress Manifestations Scale*, adapted to workers from nursing students.⁵ A higher score on each of the scales indicated a worse sleep quality, more drowsiness and more stress.

53.84% had poor sleep quality and 95% excessive daytime drowsiness. The average score on the stress scale was 35.58 ± 10.03 (95% CI 33.3–37.8). The reliability of this scale was confirmed with a α Cronbach value of 0.918, which showed an excellent internal consistency. The workplace affected sleep quality, and there was a significant difference between the sleep quality among hospital emergency workers (7.50 ± 3.87) and among outpatient emergency workers (5.76 ± 2.55), $p=0.022$ who obtaining a significantly lower score. By analysing stress based on the service of the work, it was observed that it was higher in the hospital emergency room (38.48 ± 10.43) compared to outpatient emergency services (32.53 ± 8.73), $p=0.008$. Associating the PSQI with the stress questionnaire obtained a strong correlation, where individuals with higher stress presented worse sleep quality. In addition, it was observed that the higher levels of stress, the greater drowsiness (Table 1). Regarding sex, females had worse sleep quality (7.31 ± 3.47) than males (5.89 ± 3.16) ($p=0.064$) and higher stress levels (39.10 ± 10.89 vs. 31.47 ± 7.09) ($p=0.001$). Nurses (37.89 ± 9.15) and nurse assistants (42.45 ± 11.44) showed more stress compared to doctors (33.13 ± 9.75) and emergency technicians (30.31 ± 7.48), $p=0.004$. Another significant finding was that 71.8% of workers believe that poor sleep quality negatively affects the development of their work. A strong correlation between the level of optimism that health workers had regarding their work and sleep quality ($R=-0.279$; $p=0.017$), stress ($R=-0.292$; $p=0.012$) and drowsiness ($R=-0.274$; $p=0.019$), is also observed, i.e., those who were more optimistic about their job had better sleep quality, less stress and less daytime drowsiness (Table 1).

Table 1

Correlation between the stress, Pittsburgh and Epworth scales, age, years' professional experience and optimism regarding work.

| Variables | Stress scale | Pittsburgh Sleep Quality Index | Epworth Sleepiness Scale | Age | Years' professional experience | Optimism |
|--------------------------------|------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|----------|
| Stress scale | 1 | | | | | |
| Pittsburgh Sleep Quality Index | R = 0.382; p = 0.001 | 1 | | | | |
| Epworth Sleepiness Scale | R = 0.268; p = 0.018 | $R = 0.156; p = 0.172$ | 1 | | | |
| Age | $R = -0.023; p = 0.853$ | $R = -0.196; p = 0.110$ | $R = -0.028; p = 0.821$ | 1 | | |
| Years' professional experience | $R = -0.131; p = 0.258$ | $R = -0.159; p = 0.168$ | $R = -0.050; p = 0.666$ | R = 0.837; p < 0.001 | 1 | |
| Optimism | R = -0.292; p = 0.012 | R = -0.279; p = 0.017 | R = -0.274; p = 0.019 | $R = 0.214; p = 0.092$ | $R = 0.103; p = 0.391$ | 1 |

R: Pearson correlation coefficient.

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This study has clearly shown that Hospital Emergency Service workers have a worse sleep quality and higher levels of stress and drowsiness than their outpatient emergency services colleagues. Furthermore, it found that females have higher levels of stress and worse sleep quality than males. Finally, most health professionals confirmed that their sleep deficit has a negative effect on their work performance.

References

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