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ORIGINAL ARTICLE

EXCESSIVE DAYTIME SLEEPINESS AMONG NURSING PROFESSIONALS

SONOLÊNCIA DIURNA EXCESSIVA ENTRE PROFISSIONAIS DE ENFERMAGEM

SOMNOLENCIA DIURNA EXCESIVA ENTRE PROFESIONALES DE ENFERMERÍA

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ABSTRACT

Objective: to identify excessive daytime sleepiness in Nursing professionals. ***Method:*** a quantitative, descriptive and exploratory study in two adult intensive care units. The data collection instrument was composed by the characterization of the participants and the Epworth Sleepiness Scale. Data analysis was descriptive and used the Pearson chi-square test, together with the SPSS software. ***Results:*** 57 professionals participated, of which 51 were female, with a mean age of 44 years, the majority of which were Nursing technicians (n = 37, 64.9%). Excessive daytime sleepiness was observed in 22 (38.6%) workers, with the most affected being Nursing technicians (n = 15, 68.2%), as well as workers over 38 years of age (n=13; 59,1%), who work at the ICU 1 (N = 15, 68.2%), who do not work overtime (n = 17, 77.3%), who rest (n = 16, 45.7% %) and work the night shift (n = 14, 63.6%). ***Conclusion:*** Nursing technicians were the workers who were most affected by drowsiness. ***Descriptors:*** Nursing; Worker's health; Excessive Sleepiness Sleep Disorders; Intensive Care Units; Obesity; Public health.

RESUMO

***Objetivo*:** identificar a sonolência diurna excessiva em profissionais de Enfermagem. ***Método*:** estudo quantitativo, descritivo e exploratório, em duas unidades de terapia intensiva adulto. O instrumento de coleta de dados foi composto pela caracterização dos participantes e pela Escala de Sonolência de Epworth. A análise dos dados foi descritiva e por meio do teste qui-quadrado de Pearson, com a utilização do *software* SPSS. ***Resultados*:** participaram 57 profissionais, sendo 51 do sexo feminino, com idade média de 44 anos, cuja maioria era de técnicos de Enfermagem (n=37; 64,9%). A sonolência diurna excessiva foi verificada em 22 (38,6%) trabalhadores, sendo os técnicos de Enfermagem os mais afetados (n=15; 68,2%), bem como os trabalhadores com mais de 38 anos de idade (n=13; 59,1%), que trabalham na UTI 1 (n=15; 68,2%), que não realizam horas extras (n=17, 77,3%), que realizam descanso (n=16; 45,7%) e trabalham no turno noturno (n=14; 63,6%). ***Conclusão*:** os técnicos de Enfermagem foram os trabalhadores mais afetados pela sonolência. ***Descritores*:** Enfermagem; Saúde do Trabalhador; Distúrbios do Sono por Sonolência Excessiva; Unidades de Terapia Intensiva; Obesidade; Saúde Pública.

RESUMEN

Objetivo: identificar la somnolencia diurna excesiva en profesionales de enfermería. ***Método:*** estudio cuantitativo, descriptivo y exploratorio en dos unidades de terapia intensiva adulto. El instrumento de recolección de los datos fue compuesto por la caracterización de los participantes y por la Escala de Somnolencia de Epworth. El análisis de los datos fue descriptivo y por medio de la prueba qui-cuadrada de pearson, con la utilización del software SPSS. ***Resultados:*** participaron 57 profesionales, 51 del sexo femenino, con edad media de 44 años, cuya mayoría eran técnicos de enfermería (n = 37; 64,9%).La somnolencia diurna excesiva fue verificada en 22 (38,6%) trabajadores, siendo los técnicos de enfermería más afectados (n = 15, 68,2%), así como trabajadores con más de 38 años de edad (n = 13; 59) (1%), que trabajan en la UTI 1 (n = 15, 68,2%), que no realizan horas extras (n = 17, 77,3%), que realizan descanso (n = 16; 45,7%), y trabajan en el turno nocturno (n = 14, 63,6%). ***Conclusión:*** técnicos de enfermería fueron los trabajadores más afectados por la somnolencia. ***Descriptores*:** Enfermería; Salud Laboral; Trastornos de Somnolencia Excesiva; Unidades de Cuidados Intensivos; Obesidade; Salud Publica.

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INTRODUCTION

Sleep is a fundamental element in the biological balance of the body, it is essential for an adequate emotional and mental health and has functions of restoration of energy. A bad night's sleep usually causes impairment in an individual's daily functions.[1] For the adult human being, seven to eight hours of sleep in 24 hours is considered to be an optimal wakeful state, but this daily need for sleep has been reduced due to daily activities, which is related to increased appetite, consumption of more caloric foods and, as a consequence, weight gain.[2] Socioeconomic needs have also led to a growth in the workday, reducing the hours of sleep even more.[2] This problem has generated sleep disorders in adults with frequent symptoms of insomnia, excessive daytime sleepiness, inability to sleep at the desired moment and abnormal events during sleep.[1]

Excessive Daytime Sleepiness (EDS) is a frequent complaint that may be a consequence of different sleep disturbances or alterations and used as an indirect measure of its presence. It is defined as increased propensity to sleep, in circumstances that are considered inappropriate, with the need to nap during the day.

The existence of the biological clock and the mechanisms that can change it and can generate disturbances in sleep is already known. Given this, the mismatch in the usual schedules of nurses, Nursing technicians and Nursing assistants is an issue that needs to be investigated.[3]

The daily organization of Nursing work takes place in shifts, thus involving various teams working continuously, usually in the form of rotation, in a fixed manner and at different times, that contemplate the 24 hours of the day.[3] However, this way of working can cause harm to the worker's health not only due to the development of sleep-related disorders, but also by excessive daytime sleepiness and the difficulty to remain alert, faced by the individual. These changes in the sleep-wake cycle cause a greater risk of work-related accidents.[4]

It is believed that the Nursing team is composed of a group that is susceptible to sleep disorders due to weekly workload, shift work, multiple working hours and other activities of daily living, which can lead to decreased performance at work, negatively affecting learning, social interaction and quality of life.[5]

Thus, the evaluation of the daytime sleepiness of the Nursing professionals working in the ICU, becomes necessary, since these units offer assistance to critical patients that require alertness and constant attention of the professionals involved, for the quality of the care process.

OBJECTIVE

- To identify excessive daytime sleepiness in nursing professionals.

METHOD

This is a quantitative, descriptive and exploratory study that integrates the research project "Integrated project: Evaluation of excessive daytime sleepiness and workloads in the urgency, emergency, intensivist sectors of the extreme south of Brazil", developed by the Laboratory of Socioenvironmental and Production Processes Health Collective - LAMSA, School of Nursing, Federal University of Rio Grande - FURG. It was produced with Nursing professionals from two adult Intensive Care Units (ICUs) that integrate two general hospitals in the south of Rio Grande do Sul - Brazil.

The ICU I contains 36 Nursing professionals whose unit has 11 beds and the ICU II contains 24 professionals of the Nursing team and availability of six beds, thus totaling, 60 professionals who were invited to participate in the research. The inclusion criterion was, a minimum of six months of employment relationship with the surveyed institutions and, as exclusion criterion, those employees who were on vacation or health leave during the data collection period. 57 subjects participated in the study, one of whom was on health leave and two refused to participate in the study.

The workers who accepted to participate in the research answered a data collection instrument that contained data characterizing the participants: age, gender, weight, body mass index and professional category. In addition to data characterizing the work activities: hospital where they work, overtime, work shift, working another job, shift at the other job and rest interval. It also contained the Epworth Sleepiness Scale (ESS-BR), 6 which estimates the likelihood of falling asleep in eight situations involving daily activities. Responses were assigned values from zero to three whose sum results in a score ranging from zero to 24, with scores above ten being indicative of excessive daytime sleepiness. The instrument version validated in Brazil was used, whose internal consistency, evaluated by Cronbach's alpha, was 0.76.

Data collection took place from May to June 2016, in the worker's work environments, through prior scheduling and obtaining the consent of the participants from the signing of the Free and Informed Consent Term (FICT) in two routes, one route being delivered to the informant and the other, filed by the researcher.

The data analysis was carried out in the Statistical Package for the Social Sciences program by means of descriptive statistics, description of the means, frequencies and percentage of the investigated variables, and in the inferential analysis, the Pearson chi-square test was applied, considering the values of p <0.05 to be significant. The data was presented in tables that show the distribution of frequencies, percentages and the relation between the variables.

All the provisions set forth in Resolution No. 466, December 12, 2012, of the National Health Council, regarding the ethical aspects involving research with human beings, were guaranteed.[7] The macroproject was referred to the Research Ethics Committee in the Health Area of the Federal University of Rio Grande (CEPAS / FURG), obtaining a favorable ordinance number 04/2016, under the Certificate of Presentation for Ethical Assessment - CAAE number 23116.008310 / 2015-65.

RESULTS

57 professionals participated, of which 51 were female and six were male. Most of the professionals were Nursing technicians (n = 37, 64.9%) and worked in the ICU I (n = 35, 61.4%). The nursing assistants had a higher mean age (44 years, SD = ± 5 years). The other characteristics are presented according to table 1.

Table 1. Sociodemographic and occupational characteristics of the participants. Rio Grande (RS), Brazil, 2016.

	Nurses		Nursing technicians		Nursing Assistants		*p-value**
	N	%	N	%	N	%	
Sex							
Female	13	8 6.7	35	94.6	3	60	0.056
Male	2	13.3	2	5.4	2	40	
Hospital							
ICU 1	9	60	26	70.3	0	0	0.01
ICU 2	6	40	11	29.7	22	38.6	
Doing overtime							
Yes	4	26.7	7	18.9	4	80	0.01
No	11	73.3	30	81.1	1	20	
Work shift							
I only work in the morning	6	40	9	24.3	2	40	0.218
I only work late	3	20	9	24.3	1	20	
I only work at night	3	20	18	48.6	2	40	
I work the morning and afternoon shifts.	3	20	1	2.7	0	0	
Other job							
Yes	5	35.7	2	6.1	1	20	0.035
No	9	64.3	31	93.9	4	80	
Other job shift							
Morning	1	20	0	0	0	0	0.074
Night	4	80	2	100	0	0	
Morning and afternoon	0	0	0	0	1	100	
Take breaks for rest							
Yes	8	53.3	25	67.6	2	40	0.037
No	7	46.7	12	32.4	3	60	

* from the chi-square test

Regarding anthropometric characteristics and life habits, 16 (28.1%) workers were physically active and the majority of workers were overweight (n = 21, 36.8%), and the mean weight was 78,35 kg (SD ± 14.2) and height was 138.3 cm (SD ± 60.1 cm).

Table 2. Number of participants according to Body Mass Index classification. Rio Grande (RS), Brazil, 2016.

BMI	Nurses	Nursing technicians	Nursing assistants	*p-value**
Normal	5 (33.3%)	8 (21.6%)	1 (20%)	0.022
Overweight	9 (60%)	10 (27%)	2 (40%)	
Obesity 1	0	16 (43.2%)	0	
Obesity 2	1 (6.7%)	1 (2.7%)	1 (20%)	
Obesity 3	0	2 (5.4%)	1 (20%)	
Total	15	37	5	

* from the chi-square test

Regarding the application of the statistical test, the professional category of the participants was significantly related to the classification of the Body Mass Index of the workers (p <0.022). The analysis between BMI classification and drowsiness scores did not indicate a significant association among the surveyed workers, showing that the most frequent overweight workers did not present EDS. Among the workers who take rest at work, 16 (72.7%) presented excessive daytime sleepiness.

The table below presents the average of drowsiness scores in relation to the workers who presented EDS:

Table 3: Mean of drowsiness scores in relation to workers who presented EDS and statistical analysis. Rio Grande (RS), Brazil, 2016.

	Average	SD	Presenting EDS		*p-value**
Professional category			N	%	
Nurse	9.8	4.7	5	22.7	0.888
Technician	8.89	5.0	15	68.2	
Assistant	9.6	3.9	2	9.1	
Age group					
≤38 years	9.04	4.10	9	40.9	0.417
≥38 years	9.34	5.45	13	59.1	
Units of Intensive Therapies					
ICU 1	9.63	5.14	15	68.2	0.577
ICU 2	8.50	4.20	7	31.8	
Doing overtime					
Yes	8.80	4.85	5	22.7	0.761
No	9.33	4.82	17	77.3	
Work shift					
I only work in the morning	8.71	5.88	5	22.7	0.034
I only work late	7.54	2.96	2	9.1	
I only work at night	10.61	4.83	14	63.6	
I work the morning and afternoon shifts.	8.50	3.10	1	4.5	
Other job					
Yes	10.88	6.26	5	26.3	0.124
No	8.66	4.50	14	73.7	
Take breaks for rest					
Yes	9.51	4.23	16	72.7	0.264
No	8.68	5.64	6	27.3	
BMI					
Normal	9.36	4.56	5	22.7	0.896
Overweight	9.62	4.72	8	36.4	
Obesity 1	8.50	5.07	6	27.3	
Obesity 2	6.67	6.50	1	4.5	
Obesity 3	11.67	5.03	2	9.1	

The night shift workers presented significant results for high scores for EDS (p <0.03) in the statistical test. The largest number of workers reported a high possibility of dozing "Lying down to rest in the afternoon when circumstances allow" (n = 28; 49.1%). Excessive Daytime Sleepiness (EDS) was observed in 22 (38.6%) workers, with the overall mean score being 9.19 (SD = 4.8), and the category that was most affected by drowsiness was the Nursing technicians (n = 15, 68.2%), workers over 38 years of age (n = 13, 59.1%), who work in the ICU 1 (n = 15, 68.2%) and do not work overtime (n = 17, 77.3%).

DISCUSSION

The study investigated a predominantly female population in which the majority of workers work at night, do not work overtime and allocate rest hours in their work day. The majority of workers did not present EDS

according to the used metric, but the frequency of workers who rest during work presented a score that was consistent with EDS, indicating that, even with practice, self-reported drowsiness was relevant.

Research has been conducted to elucidate the relationship between shift work and changes provoked in the circadian rhythm, lifestyle and metabolic conditions of shift workers. In Nursing, which is characterized by being one of the oldest professional groups working in shift systems, it is important to highlight the possible metabolic disorders that may be triggered. For example, shift workers may present a higher risk for the development of obesity, type 2 diabetes, cardiovascular disease, digestive problems, sleep disorders, depression and vitamin D deficiency (due to lack of sun exposure).[8]

In addition, disturbed sleep may interfere with the cognitive conditions of workers. A study showed that day shift workers obtained better performance in attention tests, after 12 hours of work, when compared with the results of the nocturnal subjects. Thus, sleep deprivation decreases brain responsiveness by reflecting on decreased cognitive and psychomotor development.[9]

In relation to metabolic disorders, a review of the literature pointed to the high prevalence of overweight and obesity, as well as a negative modification in eating habits, which were related to the altered sleep dynamics among Nursing professionals.[10]

It is important to note that shift work, by itself, may not be responsible for the metabolic disorders that cause illness. This study verified that there was no difference between nurses regarding work shifts, regardless of whether they were alternated or fixed in relation to the occurrence of EDS.[11] In addition, another study pointed out that regardless of shift, there are risks to the metabolic health of Nursing workers related to the lack of essential nutrients intake and to the consumption of caloric and fatty foods[12] promoting obesity.

The majority of workers surveyed, presented obesity or were overweight, proving that nursing professionals constitute an at risk population for inadequate weight gain and that the prevalence of obesity in this group is high, as presented in the literature.[10] Research identified that the Waist-to-Hip Ratio (WHR), an important predictor of cardiovascular diseases, increased proportionally to the increase in the number of years worked in night shifts among health professionals.[13]

Nursing technicians were the majority of workers investigated and EDS was more representative in this category. These workers are fundamental / essential to the Nursing team and the number of technicians is always higher than the number of nurses, the former working under the supervision of the latter. A study that investigated the health of nursing technicians working in emergency environments presented intense working conditions that demanded physical, psychomotor, cognitive and psychosocial skills that generated psychic tension and suffering[14] and that they apply individual and collective strategies to overcome this suffering.

In addition, a study has found that continuous action with difficult-to-manage patients, coupled with the possibility of making errors in care, contributes to chronic stress and also to cases of Burnout.[15] These characteristics may influence sleep disorders, the sleep-wake cycle, in addition to being disturbed by physiological characteristics, is modified by occupational risks related to the psychological demand of work, which in turn interferes with the mental and corporal relaxation of the worker in order to enjoy a good moment of rest.

Thus, studies enable the identification of measures of health intervention, such as weight control, treatment of depression and sleep disorders among Nursing professionals, which should include measures foreseen by public health policies.[16] In addition, It is important to ensure that workplaces have nutritional strategies that ensure healthy eating habits, including adequate food environments, and that work schedules are designed to enable workers to have adequate intervals between shifts to maintain a healthy lifestyle such as having regular times for meals, exercise and sleep.

CONCLUSION

The study allowed to verify the excessive daytime sleepiness scores among Nursing workers who work in intensive care units. It was identified that the highest score for EDS was among Nursing technicians as well as among professionals who were overweight. In addition, unlike what was expected, workers who had rests had a greater occurrence of excessive daytime sleepiness.

The importance of discussing daytime sleepiness among nursing professionals is pointed out, especially among Nursing technicians, which may indicate a professional vulnerability related to the occupational hazards to which the category is exposed. This fact may interfere in the health of these

workers who, not presenting a good quality of sleep, have their daily life damaged, as well as their work activities, being able to present distraction, automatic behavior, involuntary sleep lapses and amnesia, impairing the care given to patients under their responsibility. Thus, the possibility of interventions in health with a view to the prevention of illnesses of the sleep-wake cycle and the health promotion of these workers is indicated.

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