Sociodemographic and occupational characteristics and sleep quality of teachers of a private college

Características sociodemográficas e ocupacionais e qualidade do sono de docentes de uma faculdade privada

Características sociodemográficas y ocupacionales y calidad del sueño de los docentes de una universidad privada

Maria Isabel Serena dos Santos Silva Castro[1], Gislene de Oliveira Marques Juvino[1], Rodrigo Marques da Silva[1], Victor Cauê Lopes[2], Carla Chiste Tomazoli Santos[1], Cristilene Akiko Kimura[1]

RESUMO
Objetivo: verificar as características sociodemográficas e ocupacionais e a qualidade do sono de docentes da área de saúde de uma faculdade privada do estado de Goiás. **Método:** trata-se de um estudo transversal, descritivo e quantitativo realizado entre novembro e dezembro de 2017 por meio de um questionário sociodemográfico e ocupacional e do Índice de Qualidade de Sono Pittsburg. **Resultados:** predominaram docentes do sexo feminino (61,5%), casados (61,5%), sem filhos (61,5%), que atuam no curso de fisioterapia (46,2%), como horistas (58,3%), com outros vínculos empregatícios (76,9%) e que atuam nos três turnos do dia (76,9%). 53,8% dos docentes apresentam baixa qualidade do sono, sendo essa qualidade mais afetada pelos distúrbios do sono e pela sonolência diurna. **Conclusão:** os docentes estão expostos a fatores laborais e demográficos que podem contribuir para a baixa qualidade do sono. Necessita-se repensar os aspectos salariais, de carga horária e didáticos para modificar esse panorama.
Descritores: Enfermagem; Saúde do Trabalhador; Docentes.

ABSTRACT
Objective: To verify the sociodemographic and occupational characteristics and sleep quality of health professors of a private college in the state of Goiás. **Method:** This is a cross-sectional, descriptive and quantitative study conducted between November and December 2017 through of a sociodemographic and occupational questionnaire and the Pittsburg Sleep Quality Index. **Results:** there was a prevalence of females (61.5%), married (61.5%), childless (61.5%), who work in the physiotherapy course (46.2%), as hourly (58.3 %), with other employment relationships (76.9%) and working in the three shifts of the day (76.9%). 53.8% of teachers have poor sleep quality, and this quality is most affected by sleep disorders and daytime sleepiness. **Conclusion:** teachers are exposed to occupational and demographic factors that may contribute to poor sleep quality. It is necessary to rethink the salary, workload and didactic aspects to change this scenario.
Descriptors: Nursing; Occupational Health; Faculty.

RESUMEN
Objetivo: Verificar las características sociodemográficas y ocupacionales y la calidad del sueño de los profesores de salud de una universidad privada en el estado de Goiás **Método:** Este es un estudio transversal, descriptivo y cuantitativo realizado entre noviembre y diciembre de 2017 a través de de un cuestionario sociodemográfico y ocupacional y el índice de calidad del sueño de Pittsburg. **Resultados:** predominantemente docentes (61.5%), casados (61.5%), sin hijos (61.5%), que trabajan en el curso de fisioterapia (46.2%), por hora (58.3 %), con otras relaciones laborales (76.9%) y trabajando en los tres turnos del día (76.9%). El 53.8% de los maestros tienen mala calidad del sueño, y esta calidad es más afectada por los trastornos del sueño y la somnolencia diurna. **Conclusión:** los maestros están expuestos a factores ocupacionales y demográficos que pueden contribuir a la mala calidad del sueño. Es necesario repensar el salario, la carga de trabajo y los aspectos didácticos para cambiar este escenario.
Descriptores: Enfermería; Salud Laboral; Docentes.

1. Faculdade de Ciências e Educação Sena Aires. Valparaíso de Goiás, Goiás, Brazil.

2. Associação Juinense de Ensino Superior. Juína, Mato Grosso, Brazil.

ORIGINAL

Castro MISSS, Juvino GOM, Silva RM, Lopes VC, Santos CCT, Kimura CA

Introduction

Sleep is an important and necessary phenomenon for the maintenance of human existence. It has the fundamental biological function of restoration and conservation of energy, thermoregulation, regulation of endocrine functions and cerebral energy metabolism, and is also essential in memory consolidation.[1-2]

The sleep-wake cycle follows the circadian rhythm, that is, it is synchronized with personal and environmental factors within 24 hours. The alternation of day-night (chiaroscuro), school, work and leisure hours, as well as family activities are factors that synchronize the sleep-wake cycle. Moreover, this cycle is generated and endogenously regulated by a neural structure located in the hypothalamus, which is the suprachiasmatic nucleus, considered the biological clock for mammals.[1-3]

There is a temporal relationship between the sleep-wake cycle and other biological rhythms in the body itself, such as the secretion of melatonin, growth hormone and cortisol, the hormones that most influence this cycle.[1-3] In addition, sleep is divided into two phases: the rapid eye movement (REM) phase and the non-rapid eye movement (NREM) phase. This last phase consists of four stages which, added to the REM phase, make up a cycle of about 90 to 110 minutes each in adults, and these cycles are repeated four to five times a night.[2-4] For an optimal waking state to occur, the average adult needs 7 to 8 hours of sleep over a 24-hour period. People who need fewer hours of sleep are entitled short sleepers. Those who need more than 8 hours of sleep per night are known as long sleepers.[5-6]

When changes in sleep occur, these important functions can be impaired, leading to significant organic and psychic changes, which can compromise the physical, social, cognitive functioning and quality of life of individuals.[1-2] Thus, poor sleep quality may be related to increased morbidity, characterized by psychiatric disorders, depression, work and car accidents, premature aging, hyperkotisolemia, glucose intolerance, autonomic dysfunction, renal failure, etc.[7-8]

Insomnia is a major sleep-related disorder and has some precipitating factors, such as stress and anxiety. It is directly related to the increased time to initiate sleep (sleep latency), being normal up to 30 minutes. People who suffer from insomnia have a fragmented sleep pattern, feeling drowsy during the day and with night waking and tiredness, with the possibility of experiencing chronic pain. In addition to insomnia, snoring and obstructive sleep apnea syndrome are also part of the sleep disorder complex.[4-9]

In this context, the chronic use of stimulant or sedative substances also cause damage to sleep quality. These substances, such as caffeine, amphetamines, and ephedrine, stimulate the central nervous system and may cause increased sleep latency or even decreased total sleep time. The use of phenobarbital and benzodiazepines is also associated with insomnia. In this case, what happens is the rebound effect and, after withdrawal, there is a possibility of developing tolerance to these substances.[4,9-10]

Restriction and reduction of sleep time, which in turn are often linked to sociodemographic and occupational factors such as work demand, medication use, family responsibility, lifestyle and personal factors. In the teaching work process, specific aspects that may alter the quality of sleep are added, such as: work overload, mainly mental, competition between teachers, stress,

undergraduate and postgraduate activities, conflicting interpersonal relationships, excessive activities. and short deadlines. In addition, studies describe the precarious teaching environment, poor lighting levels and violence as situations related to poor sleep quality in teachers.[11-12]

However, few studies describe in a detailed and complete way the sociodemographic and labor characteristics of this population, as well as their sleep quality.[13] This would allow us to identify which components may be associated with decreased sleep quality, leading to the development of future interventions. Based on this, the question is: what are the sociodemographic and occupational characteristics and sleep quality presented by health professors of a private college in the state of Goiás?

In this context, the objective of this research was to verify the sociodemographic and occupational characteristics and sleep quality of health professors of a private college in the state of Goiás.

Method

This is a cross-sectional, descriptive and quantitative approach research. The cross-sectional study provides a picture of how the variables are related at that time. Descriptive investigations will verify the relationships of the facts or events under analysis. The quantitative approach is intended to ensure the accuracy of the results and to avoid distortions in their interpretation and analysis. Quantitative research, on the other hand, is characterized by "the use of quantification, both in the modalities of information collection and in their treatment through statistical techniques". [14]

The study population consisted of all professors of health courses who were linked to a private college in the state of Goiás, Brazil. This study included teachers who were linked to the institution during the period of data collection, who taught at least 20 hours per week at the institution and who worked in health courses (nursing, pharmacy or physiotherapy). Teachers who were not present on leave of any kind and who did not teach specific curricular components of the above courses were excluded from the research.

Data were collected between November and December 2017 using the following self-applied instruments: sociodemographic and occupational characterization questionnaire and Pittsburg Sleep Quality Index (IQSP).

The characterization questionnaire, elaborated by the researcher himself, involved the following sociodemographic variables: date of birth, sex, marital status, presence of children, educational level, total monthly income received in minimum wages, monthly expenditure in minimum wages and income sufficiency. monthly for maintenance. The following occupational variables were collected: academic background, main course in which they work in the nursing profession, length of work, weekly workload, work regime (host, partial or full), number of employment, weekly workload , holidays and work shifts, substance use to inhibit sleep and substance use.

The Pittsburg Sleep Quality Index (SSQI) was used to assess teachers' sleep quality over the past month and was validated in 1989 for patients with sleep dysfunction compared with those who did not have such changes. In this instrument, there are ten questions, as follows: open question one to four; and five to 10- half open. They are divided into seven components as follows: Sleep Quality (Question 6); Sleep Latency (Questions 2 and 5a); Sleep Duration

(Question 4); Habitual sleep efficiency (Questions 1, 3 and 4) Sleep disorders (Questions 5b to 5j); Use of sleeping medications (Question 7); daytime sleepiness and daytime disorders (Questions 8 and 9). Question ten is optional and was not applied in this research, since there is a need for a roommate for its analysis.[3] The overall score was generated by the sum of the score of each component, which has a weight ranging from 0 to 3. Thus, the maximum possible value for the SSRI is 21 points, and the higher this score, the worse the sleep quality. Scores greater than five points indicate poor sleep quality. To convert the answers obtained in each question to a Likert scale, the instructions described in research with health professionals were followed.[3] In the validation of the instrument for the Brazilian reality, Cronbach's alpha for the total of items was 0.82, attesting satisfactory internal consistency to the instrument.[3]

For data organization and analysis, a database was created in Excel (Office 2017) and Statistical Package for Social Science (SPSS), version 17.0. Qualitative variables are presented in absolute (n) and percentage (n%) values. Quantitative variables are exposed in descriptive measures: minimum and maximum values, mean and standard deviation. To analyze the internal consistency of the instruments, Cronbach's alpha coefficient was used.

After authorization for data collection at the institution, the project was submitted, via Brazil platform, for consideration by the research ethics committee (CEP) of the studied institution, and was approved on December 2, 2017 under opinion n. 2.411.169. In order to conduct the research according to ethical standards, the project was delivered to CEP, along with the confidentiality term, affirming the researchers' commitment to the preservation of the material and its use for a period of five years. In addition, in compliance with the guidelines and research standards related to the involvement of human beings (Resolution CNS 466/12), the Free and Informed Consent Form was given to the participating teachers, and signed in two copies (one from the researcher and one from another from the participant).

Results

The initial study population consisted of 24 teachers of health courses. Of these, 10 did not submit the completed research protocol and 1 was part of the research team, leaving 13 teachers as the access population. Table 1 shows the distribution of sociodemographic data of health teachers.

Table 1- Distribution of sociodemographic data of health professors of a private college. Goiás, 2018.

Variables		n	%
Sex			
	Male	5	38,5
	Female	8	61,5
Marital Status			
	Married	8	61,5
	Sigle without partner	2	15,4
	Stable Union	3	23,1
Children			
	Yes	5	38,5
	No	8	61,5

Education Level		
Postgraduate- Specialization	3	23,1
Postgraduate- Master	9	69,2
Postgraduate- Doctorate	1	7,7
Monthly Income		
Between 2 and 5 minimum wages	2	15,4
Between 5 and 10 minimum wages	6	46,1
Between 10 and 30 minimum wages	4	30,8
Did not answer	1	7,7
Monthly Expense		
Between 1 and 2 minimum wages (R$ 789,00 a R$ 1576,00)	1	8,3
Between 2 and 5 minimum wages (R$ 1577,00 a R$ 3.940,00)	3	25,0
Between 5 and 10 minimum wages (R$ 3.941,00 a R$ 7.880,00)	7	58,3
Between 10 and 30 minimum wages (R$ 7.881,00 a R$23.640,0)	1	8,3
Did not answer	1	0,1
Monthly income sufficient for maintenance		
Yes	7	53,8
No	6	46,2

61.5% of the teachers are female, 61.5% married and 23.1% have a stable union, and 61.5% have no children. Regarding the level of education, 69.2% of teachers have master's degrees, 23.1% have specialization and 7.7% have a doctorate. We observed that 46.1% of teachers have monthly income between 5 and 10 minimum wages, 58.3% have monthly expenses from R $ 3,941.00 to R $ 7,880.00 and 53.8% consider the monthly income sufficient to its maintenance. Table 2 shows the distribution of occupational data of health professors of a private college.

Table 2 - Distribution of occupational data of health professors of a private college. Goiás, 2018.

Variables	n	%
Main course of work		
Nursing	2	15,4
Physiotherapy	6	46,2
Physiotherapy / Farmacy	1	7,7
Farmacy	2	15,4
Biology	1	7,7
Other courses	1	7,7
Work regime		
Hourly	7	58,3
Partial (20h or 30h)	2	16,7
Integral (40 hours)	3	25,0
Other Employments		
Yes	10	76,9
No	3	23,1

| Vacation		
Yes	10	76,9
No	3	23,1
Work shift		
Morning, evening and night	10	76,9
Morning and night	3	23,1
Morning	00	00
Evening	00	00
Night	00	00

In the figure above, there is a predominance of teachers of the physiotherapy course (46.2%), who work as hourly (58.3%) and have other employment relationships (76.9%). Still, 23.1% have not taken vacations in the last years and 76.9% work in the three shifts (morning, afternoon and night). Table 3 presents the descriptive measures for the continuous sociodemographic and occupational variables in teachers of the health area of a private college.

Table 3 - Descriptive measures for continuous sociodemographic and occupational variables in teachers gives health area of a private college. Goiás, 2018.

	Descriptive Measures			
Variables	**Minimum**	**Maximum**	**Mean**	**SD***
Age (years)	0,00	54,00	33,00	16,62
Actuation Time (Months)	3,00	360,00	127,00	27,24
Weekly workload (Hours)	6,00	44,00	24,00	11,27

   * Standard-Deviation

We verified above that the teachers have an average age of 33 years (Dp = 16.62), work in the teaching to, on average, 127 months (Dp = 27.24), which is equivalent to 10.6 years, and with an average weekly workload of 24 hours (SD = 11.27). Figure 1 presents the descriptive measures by domain of the IQSP.
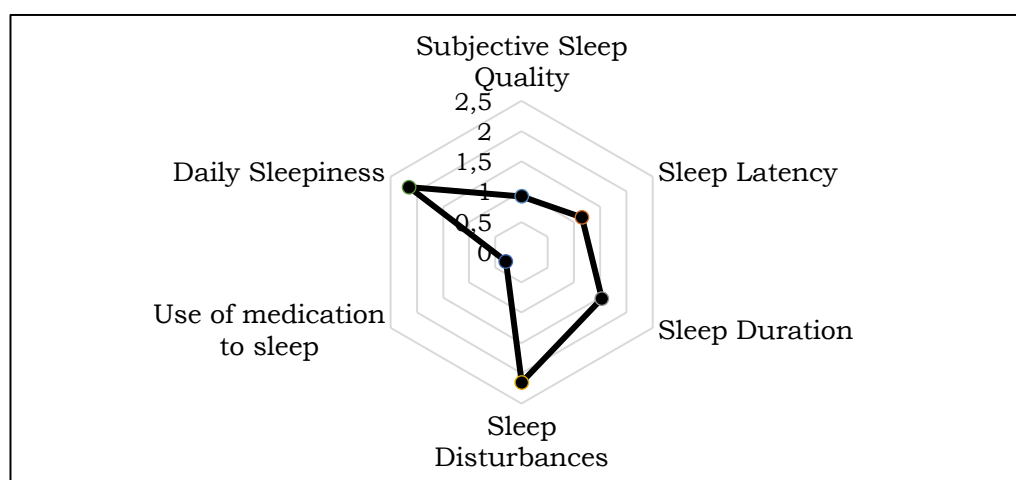
Figure 1 - Descriptive measures by domain of the IQSP teachers gives health area of a private college. Goiás, 2018.

According to the above data, teachers' sleep quality is most affected by sleep disturbance (Mean = 2.15; Standard Deviation = 0.68) and daytime sleepiness (Mean = 2.15; Standard Deviation = 0.80). In addition, 53.8% of teachers have poor sleep quality.

Discussion

From the data analysis, it was found a predominance of teachers who live with their family, female, with an average age of 33 years (SD = 16.62), married and who have no children. Still, 46.1% of professionals receive between five and ten minimum wages and 53.8% reported sufficient income for their maintenance. A survey of 221 health professors at a public university in Minas Gerais found a predominance of female teachers, aged up to 43 years, married, who live with their families and who perceive gross monthly income of up to 11 minimum wages.[15] We verified that the sociodemographic and labor profile found in this study is similar to that verified in other studies with university professors who work in health courses.[15-16] In this sense, being married and living with the family implies an additional demand to work in the educational institution, which can increase the professional's feeling of overload. By depriving yourself of sleep to meet family or work needs, it is possible to change the pattern and quality of sleep.[15-16]

We observed that the teachers work as hourly workers, have other employment relationships, work in the morning, afternoon and evening shifts simultaneously, with an average workload of 24 hours per week and have been working, on average, for 127 months (10.6 years). Teaching In addition, 23.1% have not taken vacations in recent years. In an investigation with university professors of Minas Gerais, it was observed prevalence of teachers with other employment and with up to 12 years of work.[15] This practice is common in Brazil among health professors, but it impairs and reduces the time devoted to leisure, study and rest[17], and increases the likelihood of daytime sleepiness. A study of 30 fixed-scale night workers to identify sleep problems using the Giglio Sleep Questionnaire found that 43% of individuals had excessive daytime sleepiness.[18]

Possibly the various shifts assumed are due to financial, personal and working conditions, causing them to depend on more than one job.[19] This may be a contributing factor to poor sleep quality as individuals who work multiple shifts may develop sleep disorders, with increased risk of traffic accidents, abuse of sleeping medication and use of non-sleeping drugs. The most affected workers are those who work in the night, which can also lead to changes in sleep quality and sleep patterns.[17]

Teachers' sleep quality is most affected by sleep disorders and daytime sleepiness. In addition, 53.8% of teachers had poor sleep quality. In a study conducted in a public educational institution with 27 university health professors, it was found that 48% had poor sleep quality and only one had sleep disorder.[20] Another study conducted with public school teachers in southern Minas Gerais found that 46.7% of the teachers were poor sleepers and 57.0% had sleep disorders and dysfunction on the day.[16] Therefore, the working conditions to which teachers are subjected, including waking up early and sleeping late, working three shifts and work overload, may alter their sleep pattern, leading to excessive daytime sleepiness and sleep disturbance. When this process is

maintained, negative impact is expected on sleep quality and, therefore, on the quality of the teacher's daily activities in the institution, which may compromise the learning of students in general.[16-17, 20]

Conclusion

We observed that teachers work in the three shifts (morning, afternoon and night), as hourly, have monthly income between five and ten minimum wages, report receiving sufficient income for their maintenance, took vacations in recent years and have more than one bond employment In addition, teachers' sleep quality is more affected by sleep disorders and daytime sleepiness, with a predominance of poor sleep quality among them. Sleep is an important phenomenon, both for the teacher's mental and physical health. When one does not have restorative sleep, the individual is prone to disturbances, among other diseases. In this sense, it can be said that teachers are exposed to labor and demographic factors that contribute to poor sleep quality. Therefore, in the field of teaching practice, a review of work processes, including salary, workload and didactic aspects is necessary in order to avoid overlapping of work, work overload and therefore changes in the standard and sleep quality. In addition, managers need to review their current human resources, job and salary, and staff policies to make teaching work more respectful and enjoyable, with better impact on their health and productivity.

This research expresses some limitations, among which: the sample limitation, which is due to the period in which the research protocol was delivered (end of semester), which impacted the adherence to the research. Thus, it is suggested that further research be carried out in other Brazilian colleges and universities with larger samples so that a more consistent overview of the working conditions of the health university professor and their impact on sleep quality can be constructed.

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Correspondent Author
Rodrigo Marques da Silva
Faculdade de Ciências e Educação Sena Aires.
Acre St., Square 2. Lots 17/18, n/n - Setor de Chácras
Anhanguera. ZIP-72870-508. Valparaíso de Goiás, GO,
Brazil.
Marques-sm@hotmail.com