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SLEEP QUALITY IN THE CONTEXT OF COVID-19 AND SOCIAL CONSEQUENCES IN NURSING STUDENTS OF A PUBLIC UNIVERSITY, 2021

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Abstract: Introduction: The COVID-19 pandemic generated notable changes in society. Universities are one of the most affected social spheres, since they abruptly went virtual, causing changes in the lives of students, including nursing students. This change unbalanced the habitual states of wakefulness, generating disorders in the quality of sleep, the consequences of which are visible in direct practice towards the people under their care, both in community centers and in hospitals where health workers work. **Objective:** To determine the influence of sleep quality in the COVID-19 context on the social consequences in nursing students at a public university. **Methodology:** Observational, cross-sectional design, the sample consisted of 204 Nursing students, the Pittsburgh Sleep Quality Index (PSQI) questionnaire and a file for sociodemographic characteristics were applied. **Results:** 66.7% of nursing students are between 18 and 23 years of age, with a predominance of females and single marital status. According to the global score of the Pittsburgh sleep quality index, 84.3% had poor sleep quality, according to its dimensions, 58.8% have a fairly good subjective sleep quality, 37.3% have inadequate sleep latency, 42.6% have an adequate sleep duration, 72.5% have a very adequate sleep efficiency, 52% sometimes have sleep disturbances, 86.3% have never used sleep medications in the last month and 52.9% present almost always daytime dysfunction. 86.4% of the female sex have poor sleep quality. **Conclusion:** the quality of sleep in the context of COVID -19 negatively influences the social consequences of nursing students.

Keywords: Sleep quality, nursing student, social consequences.

INTRODUCTION

Currently, the COVID-19 pandemic generated far-reaching changes in the

educational field, where both private and public university institutions were closed and forced to change the modality of face-to-face teaching to virtual, opting for new digital strategies for academic activities. This modality transition caused significant changes in the lives of the students beyond the fear of contagion, the limited restriction measures that were established during social confinement, unbalancing the daily routines that usually serve as timers for the rhythms of wakefulness and sleep. synchronous with the day and night cycles (Morin & Carrier, 2021), altering the physiological state of sleep, which is defined by Buysse D. as "A periodic, rapidly reversible neurobehavioral state, characterized by almost simultaneous patterns of activity and mode of activation of neurons and circuits of the Central Nervous System" (Buysse et al., 1989).

Likewise, the low quality of this neurobehavioral state would generate more negative results on control of behavior, attention and balance of emotions; since this is essential for the advancement of educational, social competencies (Carrillo et al., 2013). It must be noted that the required sleep duration for adults under 65 years of age is that sleep lasts for 7 to 9 hours (Merino et al., 2016). In universities, students face both psychological and physical demands for long hours of night study, this will generate social consequences, such as emotional instability, fatigue, irritability, memory problems, difficulty in attention or concentration, decrease in daily performance and in some people it influences the modification of certain traits of their personality (Soto & Raúl, 2009)

Poor sleep quality can also be associated with stress, depression, anxiety, insomnia, or indicators of an unhealthy lifestyle (Masalan et al., 2013) que incentiven la formación de hábitos saludables, basados en la higiene del sueño y en las conductas autorregulatorias

de niños y adolescentes. El objetivo de esta revisión es los principales factores que permiten diseñar programas educativos e intervenciones, con la finalidad de mejorar y prevenir el surgimiento de alteraciones más complejas y de difícil resolución. (Palabra clave: Sueño, higiene del sueño, trastornos del sueño, promoción de la salud; programas educativos, (Valencia et al., 2010) , as well as sleep quality. It can be influenced by age, sex, marital status, number of children, and academic performance, which are a set of biological, social, and cultural characteristics, among others (Cárdenas et al., 2014) .

Health sciences students have a high prevalence of sleep disorders due to intense academic loads, intermittent schedules, and night shifts (Granados et al., 2013).

According to Nunes, he found that students' sleep is compromised by excessive daytime sleepiness and poor quality, possibly related to various curricular and extracurricular activities (Nunes et al., 2016). In addition, those people who remain in long periods of study, are susceptible to sleep deficits (Lezcano et al., 2014).

There are studies about the quality of sleep where it affects the biopsychosocial well-being of the person and even stands out as a mental health problem that goes beyond a simple discomfort, drowsiness or low academic performance, causing long-term diseases such as hypertension, obesity, diabetes, cardiovascular and cerebrovascular problems, depression and others; These are just some of the pathologies that are more frequently observed in the future in people with sleep disorders (Ahrberg et al., 2012).

The mere increase in sleep disorders generates new health problems in the individual (Soto & Raúl, 2009) . Therefore, these problems will not only affect the person in the biological and psychological sphere; Otherwise, they will have significant relevance

in the social sphere, which can lead to inadequate development in the workplace and induce behavioral alterations in the person with others (de la Portilla et al., 2019) in which 547 students voluntarily participated in the research was carried out. The instruments used were the Epworth Sleepiness Scale (ESE) becoming a public health problem.

The results of the study will allow to provide updated information to the authorities of the National University so that they modify the curricular plan, as well as promote new strategies or teaching methods that do not unbalance the physiological process of sleep.

The objective of the research was to determine the influence of sleep quality in the COVID-19 context on the social consequences in nursing students.

METHODOLOGY

The research was descriptive, correlational, cross-sectional; The participants were 205 of 405 students from the first to the eighth semester with regular attendance of the Professional School of Nursing of the National University San Antonio Abad of Cusco of the Republic of Peru.

The instrument used to measure sleep quality was the Pittsburgh Sleep Quality Index (PSQI), developed by Daniel Buysse in 1988, this instrument has a reliability of Cronbach's alpha 0.83. This instrument was validated in the United States in three groups: healthy subjects, patients with depressive disorders, and outpatients. The PSQI is made up of 19 items; distributed in 7 dimensions, subjective sleep quality, sleep duration, sleep latency, habitual sleep efficiency, sleep disturbances, use of hypnotic medication, and daytime dysfunction. The global score is from 0 to 21 points where > 5 is poor sleep quality and < = 5 good sleep quality (Buysse et al., 1989).

On the other hand, a data collection sheet of sociodemographic characteristics was used

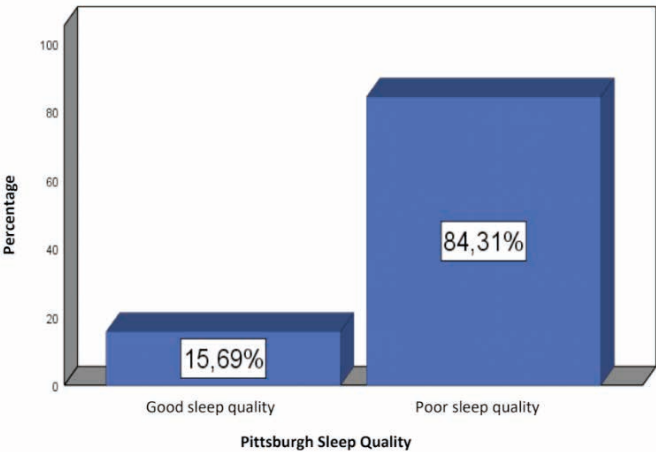
with the following items; age, sex, marital status, place of origin, number of children.

The instruments were sent through institutional emails after announcing informed consent for their voluntary and anonymous participation.

The data were processed in the Microsoft Excel program and later analyzed in the SPSS version 25 program, making use of descriptive statistics and for the bivariate analysis, Pearson's chi-square test was used.

RESULTS

According to the global score of the Pittsburgh sleep quality index, it was obtained that, of the 204 students, 84.3% had poor sleep quality and 15.7% had good sleep quality.



Graph 1. Level of Sleep Quality in nursing students.

Source own elaboration (2022)

When analyzing the dimensions of sleep quality, it was found that 58.8% of the students have a fairly good subjective sleep quality; 37.3% present inadequate sleep latency; 42.6% have adequate sleep duration; In addition, 72.5% have a very adequate habitual sleep efficiency; in the same way, 52% sometimes refer to having different sleeping problems; On the other hand, 86.3% never required medication to sleep and finally, 52.9% almost always presented daytime dysfunction.

Sleep quality Dimensions	no.	%
Subjective Sleep Quality		
Very good	3	1.5
Really good	120	58.8
Pretty bad	73	35.8
Very bad	8	3.9
total	204	100
Sleep latency		
Very suitable	36	17.6
Appropriate	69	33.8
Inappropriate	76	37.3
nothing suitable	23	11.3
Total	204	100
Sleep duration		
Very suitable	twenty	9.8
Appropriate	87	42.6
Inappropriate	62	30.4
nothing suitable	35	17.2
total	204	100
Usual Sleep Efficiency		
Very suitable	148	72.5
Appropriate	32	15.7
Inappropriate	17	8.3
nothing suitable	7	3.4
total	204	100
Sleep disturbances		
None	9	4.4
Sometimes	106	52.0
Almost always	85	41.7
Always	4	2.0
total	204	100
Use of hypnotic medication		
Not once in the last month	176	86.3
Less than once a week	14	6.9
once or twice a week	eleven	5.4
Three or more times a week	3	1.5
total	204	100
Daytime dysfunction		
None	6	2.9
Sometimes	43	21.1
Almost always	108	52.9
Always	47	23.0
Total	204	100

Table 1. Dimensions of sleep quality of nursing students.

Source: Own elaboration (2022), n° = frequency, %= percentage

Referring to sociodemographic characteristics; 93.6% are female, in addition 66.7% range from 18 to 23 years old, likewise 97.1% of the students are single; 63.2% only study and 36.8% work and study; 96.6% of the students do not have children yet, while the

rest have at least 1 child, 51.5% of these come from the urban area and 48.5% from the rural area.

Variable Categories		Frequency	Percentage
Gender	Female	191	93.6%
	Male	13	6.4%
Age (Grouped)	16 to 17 years	46	22.5%
	18 to 23 years	136	66.7%
	>24 years	22	10.8%
Civil status	Single	198	97.1%
	Married	1	0.5%
	Cohabitant	5	2.5%
	Divorced	0	0.0%
	Widower	0	0.0%
Occupation	just study	129	63.2%
	Work and study	75	36.8%
	None	197	96.6%
Number of children	One	5	2.5%
	Two	2	1.0%
	three to more	0	0.0%
Place of origin	Rural	99	48.5%
	urban	105	51.5%

Table 2. Sociodemographic characteristics of Nursing students in the Covid-19 context of a Public University, Cusco, 2021

Source: Own elaboration (2022), n° = frequency, %= percentage

Regarding sleep quality and sociodemographic characteristics, it was found that 86.4% of women have poor sleep quality; 85.4% of single students have poor sleep quality and 85.8% of students without children have poor sleep quality.

Characteristics		Pittsburgh Sleep Quality		
		good sleep quality	poor sleep quality	Total
Gender				
Female	no	26	165	191
	%	14%	86%	100%
Male	no	6	7	1300%
	%	46%	54%	100%
Civil status				
Single	no	29	169	198
	%	15%	85%	100%
Married	no	0	1	1
	%	0%	100%	1
Cohabitant	no	3	2	5
	%	60%	40%	100%
Occupation				
just study	no	23	106	129
	%	18%	82%	100%
Work and study	no	9	66	75
	%	12%	88%	100%
Number of children				
None	no	28	169	197
	%	14%	86%	100%
One	no	3	2	5
	%	60%	40%	100%
Two	no	1	1	2
	%	50%	50%	100%
Place of origin				
Rural	no	15	84	99
	%	15%	85%	100%
urban	no	17	88	105
	%	16%	84%	100%

Table 3. Relationship between sociodemographic characteristics and the sleep quality index in Nursing students. Source: Research Questionnaire (2022), n° = frequency, %= percentage

DISCUSSION

The present study evidenced that, of the 204 students surveyed from the professional school of Nursing of the San Antonio Abad National University of Cusco, 84.3% presented a poor quality of sleep; These results are similar to the investigations carried out by Ojeda P. where 94.06% of the students had poor sleep quality (Ojeda et al., 2019), likewise, Mendez found that 70% had poor sleep quality. (Méndez & Parra, 2017). These data show that it is necessary to develop strategies that help to balance the quality of sleep and thus preserve the optimal quality of health of university students.

The sleep quality of the PSQI in the sleep latency component, 37.3% of students take between 31 and 60 minutes to fall asleep, these findings are similar to what was reported by Mego E, where 40% of university students take between 31 and 31 minutes to fall asleep. 60 minutes (Mego, 2018) ; According to the sleep duration component, 42.6% have an adequate sleep duration, that is, the average sleep is 6 to 7 hours, the result of which is similar to the study carried out by Méndez JC who found that 50.4% of students sleep for 6 to 7 hours (Méndez & Parra, 2017). In addition, people who sleep adequate hours according to their age, have a better quality of life; since the neurobehavioral state of sleep decreases stress, increases the level of learning, the ability to concentrate. However, not only the number of hours that a person sleeps is essential, but also the quality and consistency of this physiological state are important for this situation to be renewing (Merino et al., 2016).

According to the sleep disturbances component, 52% of the students reported having different sleeping problems at times; These results differ from the studies carried out by López F where he found that 61% did not present any problem sleeping in the

last month (López et al., 2020). It is worth mentioning that among the problems that students have when they cannot fall asleep, one of them is not being able to breathe well at night.

Studies suggest that it is possible that the respiratory problems of this physiological state called sleep are probable circumstances for the appearance of increased blood pressure and therefore the appearance of cardiovascular diseases (Peppard et al., 2000).

Finally, according to the daytime dysfunction component, 52.9% of the students present daytime dysfunction; This result is similar to the study carried out by Monterrosa A, where he indicates that 84.2% have difficulty staying awake while eating or doing academic activities (Monterrosa et al., 2014). Human beings who tend to sleep during the day for different reasons have a high incidence of problems with the digestive, cardiological, and metabolic systems; some oncological diseases and mood imbalance; unlike people who, if they sleep at night, these problems are of less incidence (Merino et al., 2016).

Among the sociodemographic characteristics, 86.4% of women present a poor quality of sleep; 85.4% of singles have poor sleep quality and 85.8% of students without children have poor sleep quality.

The quality of sleep is related to the marital status and sex of the nursing students $P < 0.05$: which indicates that there is a significant relationship. These results differ from the research carried out by Sáez GJ, Santos RG, Salazar Ck where they found that there is no significant relationship with age and sex (Saez et al., 2013) .

It can be inferred that the PSQI measures night sleep, but not daytime naps or breaks; therefore, it may be due to the fact that students use the night hours to study and during the day they sleep a few hours to be able to balance the hours dedicated to studying.

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