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RESEARCH

Sleep and Rest Patterns in Female Students of the Health Area

Sueño y descanso en mujeres estudiantes del área de la salud

Sono e descanso em mulheres estudantis da área de saúde

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Abstract

Introduction: Sleep influences and regulates physiological functions and behavioral responses, therefore, sleep deprivation and rest have led to alterations in the well-being of university students who experience changes in their life routines, related to academic demands, study schedules, role fulfillment, among others. The approach to sleep and rest in university students allows the generation of empirical information for decision-making by university authorities and, as nursing professionals, guides the design of interventions for the well-being of this population. **Objective:** Characterize the sleep and rest pattern of university students in the health area. **Methodology:** A descriptive cross-sectional study; 119 women to participate were selected by simple random sampling, who were enrolled in a program in the health area and who signed the informed consent. A specially design instrument using the characteristics of the 2018-2020 NANDA category for the diagnosis of disturbed sleep pattern was applied. Descriptive and inferential statistics were obtained for the assessment. **Results:** on the sociodemographic characteristics 94.1% referred to being single, 5% reported having children, and 66.4% were in the fourth year of the nursing career. Regarding the sleep and rest pattern, 12.6% feel rested, 63% wake up during the night, 55.5% needs time to fall asleep, and 43.7% sleep less than eight hours; because of the lack of hours of sleep they report anxiety (46.2%), lethargy (50.4%), and aggression (38.7%). **Conclusion:** The students have an altered sleep and rest pattern.

Key words: Sleep; Habits; Students; Health occupations (DeCS).

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Resumen

Introducción: El sueño influye y regula funciones fisiológicas y respuestas conductuales, por lo tanto, la privación del sueño y descanso ha llevado a alteraciones del bienestar de las estudiantes universitarias que viven cambios en sus rutinas de vida, relacionado con las exigencias académicas, horarios de estudio, cumplimiento de roles, entre otros. El abordaje del sueño y descanso en las estudiantes universitarias permite generar información empírica para la toma de decisiones por las autoridades universitarias y como profesionales de enfermería orienta el diseño de las intervenciones para el bienestar de esta población. **Objetivo:** caracterizar el patrón de sueño y descanso de las estudiantes universitarias del área de la salud. **Metodología:** estudio descriptivo transversal, participaron 119 mujeres seleccionadas por muestreo aleatorio simple, inscritas en un programa del área de la salud y que firmaron el consentimiento informado. Se aplicó un instrumento exprofeso diseñado a partir de las características definitorias de la categoría diagnostica patrón de sueño alterado de NANDA 2018-2020. Para el análisis se obtuvo estadística descriptiva e inferencial. **Resultados:** sobre las características sociodemográficas 94.1% refirieron ser solteras, 5% reportó tener hijos, 66.4% cursaban cuarto año de la carrera de enfermería. Respecto al patrón de sueño y descanso 12.6% se sienten descansadas, 63% se despiertan durante la noche, 55.5% tardan en conciliar el sueño y 43.7% duermen menos de ocho horas, por la falta de horas de sueño refieren ansiedad (46.2%), letargo (50.4%), agresión (38.7%). **Conclusión:** las estudiantes tienen un patrón de sueño y descanso alterado.

Palabras clave: Sueño; Hábitos; Estudiantes del área de la salud (DeCS).

Abstrato

Introdução: O sono influencia e regula as funções fisiológicas e as respostas comportamentais, portanto, a privação do sono e o repouso têm levado a alterações no bem-estar de universitários que vivenciam mudanças em suas rotinas de vida, relacionadas às demandas acadêmicas, horários de estudo, cumprimento de papéis, entre outras. A abordagem do sono e repouso em estudantes universitários permite a geração de informações empíricas para a tomada de decisão por autoridades universitárias e, como profissionais de enfermagem, orienta o desenho de intervenções para o bem-estar dessa população. **Objetivo:** Caracterizar o padrão de sono e repouso de universitários da área da saúde. **Metodologia:** Estudo transversal descritivo, 119 mulheres participantes foram selecionadas por amostragem aleatória simples, inscritas em um programa da área da saúde e que assinaram o Termo de Consentimento Livre e Esclarecido. Foi aplicado um instrumento especialmente desenhado usando as características da categoria 2018-2020 da NANDA para o diagnóstico do padrão de sono perturbado. Estatísticas descritivas e inferenciais foram obtidas para a avaliação. **Resultados:** sobre as características sociodemográficas 94,1% referiram ser solteiros, 5% referiram ter filhos e 66,4% estavam no quarto ano da carreira de enfermagem. Quanto ao padrão de sono e repouso, 12,6% sentem-se descansados, 63% acordam durante a noite, 55,5% precisam de tempo para adormecer e 43,7% dormem menos de oito horas; pela falta de horas de sono relatam ansiedade (46,2%), letargia (50,4%) e agressão (38,7%). **Conclusão:** Os alunos têm um padrão de sono e repouso alterado.

Palavras-chave: Dormir; hábitos; estudantes, profissões de saúde (DeCS).

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Introduction

Sleep is a cyclical physiological process that alternates with long periods of wakefulness. This cycle influences and regulates physiological functions and behavioral responses. Among sleep functions are energy conservation, body tissue restoration, decrease in the release of free radicals that can damage brain tissue, thermoregulation, consolidation, and reinforcement of memory [1,2], so getting the best possible quality of sleep is important to have a good health status [3]. Since people need different amounts of sleep and rest, these variations depend on the stage of the life cycle; the newborn sleeps between 14 and 18 hours; the infant between 12 and 14 hours; the school child between 11 and 12 hours, and in adulthood, most sleep between 7 and 8 hours per night [4,5]. Physical and emotional health and daytime academic and work performance depend on the ability to satisfy this basic human need [6].

When a person rests, he is in a state of mental, physical, and spiritual activity that leads him to feel free of depression, stress or anxiety [7]. Likewise, when people get enough sleep they feel that their energy has been recovered, they are ready to resume the activities of daily life [8]. Rest does not imply inactivity, it can be accomplished through reading, practicing relaxation exercises, and listening to music, among others [9].

Without proper sleep and rest, the ability to concentrate, make judgments, make decisions, think critically, and participate in daily activities decreases; at the same time irritability increases [10].

The main differences in sleep and rest between men and women are related to physiological processes such as menstruation, pregnancy, and menopause, which can alter sleep [4]; in addition to the fact that in Mexico women usually have a greater family workload than men. They are responsible for most of the household duties and childcare, thus reducing the time they have for rest.

One factor that modifies the pattern of sleep and rest is university life (3). Young women who enter university, a unique moment in the development of the student [11] is facing a period in which they must face a series of physical, psychological, and social changes, for which they are usually not prepared, such as academic concerns, new social networks, changes in her habits of physical activity, eating, sleeping, and rest, among others that can affect her lifestyle and quality of life, especially for students who migrate to another city to begin or complete their studies [12]. Female

students in particular require appropriate sleep to participate in their daily activities; however, during their university career, there are behaviors that alter their sleep and rest patterns, such as alcohol and tobacco consumption, inadequate nutritional diets, sedentary lifestyle, academic demands, unfamiliar surroundings, social activities, having children and covering roles that require a greater demand just for being woman, among others [13].

Women are at greater risk of being exposed to external factors to start or maintain sleep (OR=3.1; 95% CI 1.1-8.8), among which are university stress, family relationships, and social activities [8]. Similarly, habits that can alter the sleep pattern include: doing work at night to which one is not accustomed, participating in social activities until late at night, changing dinner time, and even working double shifts [14].

The most common risk factors in the alteration of sleep and rest patterns among female university students in the health area are the number of hours away from home to attend theoretical and practical classes in laboratories, community, companies or second level health care institutions, depending on the school year they are enrolled; in addition to the academic activities of class preparation, there is the need to do homework, extra-class work, all to be done in the few hours available outside the university, which reduces the hours of sleep in attention to these responsibilities, along with the activities assigned to women because of their gender [15].

According to the available evidence, dysfunctional sleep patterns were found in university students, such as staying late at night or not respecting adequate sleep schedules, which led to insomnia problems, difficulty in falling asleep or waking up several times during the night [8]. Another study found that 70.3% of university students had mild or moderate drowsiness [2]. It has also been reported that 62.4% of university students reported that one of the factors that interferes with sleep is academic work [16]. In another study, it was noted that university women have worse sleep quality than men [17].

In the higher education institution where the study was conducted, there is no information on this topic that would allow the implementation of an intervention in the university students, in order to improve their wellbeing.

The objective of the study was to characterize the sleep and rest pattern of university students, given that sleep and rest is fundamental to improve the quality of life of university students, in addition to promote positive results in the

academic results. The diagnosis category that was worked on was disturbed sleep pattern (00198), which according to the 2018-2020 (NANDA) Nursing Diagnoses refers to interruptions for a limited time in the quantity and quality of sleep due to external factors [18].

Objective

Characterize the sleep and rest patterns of female university students in the health area.

Methodology

The study had a cross-sectional descriptive design; 119 female students between 20 and 23 years of age (M=21.50, SD=1.04) enrolled in a Higher Education Institution (HEI) in the state of Guanajuato, Mexico, participated. These students were in the nursing career, with a full academic load for the school year they were enrolled, and were provided an informed consent. The sample size calculation was determined with the finite population formula [19] in which a confidence level of 95% was considered, probability in favor of .80, probability against of .20, and an estimation error of .05; the type of sampling was probabilistic with simple random selection [19].

To collect sociodemographic data, a general data form was used, which included questions regarding age, marital status, if they had a relationship, number of children, etc. In addition to questions regarding academic activities during the semester, place and shift of clinical practice, as well as their overall grade point average of the immediate previous semester. For the sleep and rest pattern, the sleep pattern scale was used, which was designed specifically, consisting of 12 items with a Lickert-type scale of four degrees where four means always and one means never; the time frame of reference is the previous week, the minimum score is 12 points, and a maximum of 48 points, indicating that the higher the score, the greater the alteration of the sleep and rest pattern. Prior to data collection, informed consent was obtained from the participants.

In the analysis of the characterization of the sleep pattern, descriptive statistics were applied, and for the design of the instrument, viability analysis was obtained through Bartlett's Sphericity test and the KMO (Kaiser-Meyer-Olkin) test. Also, the factorial analysis and Cronbach's Alpha reliability coefficient were obtained. The project was approved by the

Research Committee of the Health Sciences and Engineering Division of the Celaya Salvatierra Campus of the Universidad de Guanajuato with registration number CIDSC-3090806.

Instrument design

For the design of the instrument, the following methodological proposal was followed [20,21,22], defining the concept to be measured, clarifying the target population, developing the items, and evaluating validity and reliability.

The process of developing the scale is described below: A) the concept to be measured was disturbed sleep pattern which is the diagnosis category 00198 of NANDA 2018-2019[18], which is defined as waking up for a limited time due to external factors; B) the target population were university women in the health area, who were studying nursing; C) in the development of the reagents, the defining characteristics of the diagnosis category disturbed sleep pattern (00198) of NANDA 2018-2020 [18] were taken as attributes of the concept, which are: alterations in the sleep pattern, waking up without reason, difficulty in daily functioning, difficulty in going to sleep, feeling of having rested, dissatisfaction with sleep, in the design of the reagents the simplicity of the statement, easy comprehension of the reagent, clear and simple language and wording in the present tense were considered [23]; D) to evaluate the content validity, a panel of judges, three nursing professionals, one of them with experience in clinical practice, another in teaching and management of NANDA 2018-2020 [18], NIC (Nursing Interventions Classification) [24] and NOC (Nursing Outcomes Classification) [25] and the third in teaching and instrument development, evaluated the clarity, coherence, relevance, pertinence, relevance and importance of the items. Once the items were available, it was proceeded to write the instructions and format of the instrument to present it to 10 university students in the health area and, thus, determine the degree of understanding of the instructions, clarity of the items and characteristics of the presentation of the instrument; E) in terms of construct validity, a factor analysis of principal components was performed, where the result of the Kaiser-Mayer-Olkin test was 0. 83 and Barlet's sphericity test was significant (X^2= 363.18, gl = 66, p < .001); the principal components matrix was performed by Varimax rotation, resulting in three factors that explained 54.32% of the total variance; F) in relation to reliability, an evaluation of the internal consistency of the total instrument was

performed using Cronbach's Alpha, the result was 0.743, which according to Nunnally [26] may be sufficient in the first phase of the development of an instrument.

Results

Regarding the characteristics of the participants, 94.1% reported being single, 5.9% were in a relationship and 5% reported having children. Regarding academic activities, 66.4% were in their fourth year, 25.2% in their third year and 8.4% in their second year of nursing. The students were both in clinical practice in the health or business sector and attending courses at the HEI, in such a way that those who attended practice at night, accumulated work day, and afternoon shifts took courses at the HEI in the morning shift and those who attended practice in the morning shift attended courses at the HEI in the afternoon shift. One hundred per cent (100%) of the participants had a full academic load for the school year in which they were enrolled. Of the students who attended clinical internships, 52.1% were in the morning shift, 21.8% were in the day shift, 13.4% in the evening shift, and 12.6% in the night shift. The average grade point average for the immediate previous semester was 8.65 (SD=0.50).

Regarding the characteristics of the sleep and rest pattern, 12.6% of the participants reported that they always feel rested, 63% sometimes woke up during the night, 55.5% sometimes needed some time to fall asleep, 43.7% always slept less than eight hours, and due to the lack of sleep hours, sometimes they had sudden mood changes (46.2%), felt anxious (50.4%), lethargic (47.9%), lost concentration easily when carrying out their daily activities (58.8 %), experienced acute confusion (31.1%), had aggressive reactions for no reason (38.7%), noticed shaking hands and eyes (42%), and 60.5% never had a nap during the day in order to prevent from falling asleep during the night.

Discussion

This study allowed us to know the characteristics of sleep and rest patterns in university students in the health area, the results showed that this population has an altered sleep pattern, as reported in other studies conducted on university students [2, 13, 17]. One out of ten participants reported that they always felt rested; these results are similar to

those found in the research conducted at the Universidad Católica de Asunción, in which 21.93% of the participants reported restful sleep [15].

Regarding the fact that 63% reported that they sometimes wake up during the night, these results are similar to those of Becerra [11], who reported that 61.3% of the participants woke up during the night. Regarding the fact that 55.5% needed some time to fall asleep, 43.7% always slept less than eight hours; the results are similar to the results of the study carried out at Universidad de Rosario, Colombia, who reported that the participants reported that they needed more than 30 minutes to fall asleep (2.8%) and slept less than eight hours (M= 6.5 hrs, SD=.5) [16].

With respect to the fact that due to lack of sleep they sometimes had sudden mood swings (46.2%), felt anxious (50.4%), felt lethargic (47.9%), lost concentration easily in their daily activities (58.8%), experienced severe confusion (31.1%), reacted aggressively for no reason (38.7%), and noticed that their hands and eyes shook (42%); these are results contrary to those reported by the research conducted at King Khalid University, Saudi Arabia [10] where the population studied showed good sleep patterns.

With respect to the fact that 60.5% never took naps during the day that prevent them from sleeping during the night, which is different from the data reported by Becerra [11] where 27.1% took naps.

Conclusions

The objective of the study was to characterize the sleep and rest patterns of university students, and it was concluded that the students had an altered sleep pattern determined by waking up during the night, needing a lot of time to fall asleep, and sleeping less than eight hours. Due to the lack of sleep, they reported sudden mood changes, anxiety, lethargy, lack of concentration in their activities, and aggressive reactions for no reason. This study is the basis for the formulation of strategies that favor sleep hygiene in female university students from a gender perspective.

Conflicts of Interest

The authors stated they had no conflicts of interest.

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