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# Sleep quality in active elderly

Calidad del sueño en ancianos activos

A qualidade do sono em idosos ativos

## ABSTRACT

**Objective:** To evaluate the quality of sleep in active elderly. **Methods:** This is a descriptive, cross-sectional, observational study, with a quantitative approach. The sample was census, contemplating all active elderly enrolled in social work with the elderly (TSI) from the Social Service of Commerce (SESC). A validated questionnaire was applied addressing the variables related to sleep: The Pittsburgh Sleep Quality Index (IQSP), in addition to data regarding the age and sex of the participants. **Results:** About 63% of the elderly had a normal sleep pattern and 37% changed the pattern according to the IQSP. In addition, it was observed that 74.16% did not use any medication to help sleep. **Conclusion:** It can be concluded that active elderly people mostly have a normal sleep pattern and a good disposition to perform daily activities, thus showing that the practice of physical activities is an important factor for the quality of sleep.

**DESCRIPTORS:** Sleep; Motor Activity; Aged; Health.

## RESUMEN

**Objetivo:** Evaluar la calidad del sueño en ancianos activos. **Métodos:** Se trata de un estudio observacional, descriptivo, transversal, con enfoque cuantitativo. La muestra fue censal, contemplando a todos los adultos mayores activos matriculados en Trabajo Social con Ancianos (TSI) del Servicio Social de Comercio (SESC). Se aplicó un cuestionario validado que abordaba las variables relacionadas con el sueño: el Índice de Calidad del Sueño de Pittsburgh (IQSP), además de datos sobre la edad y el sexo de los participantes. **Resultados:** Aproximadamente el 63% de los ancianos tenía un patrón de sueño normal y el 37% cambió el patrón de acuerdo con el IQSP. Además, se observó que el 74,16% no usaba ningún medicamento para ayudar a dormir. **Conclusión:** Se puede concluir que las personas mayores activas en su mayoría tienen un patrón de sueño normal y una buena disposición para realizar las actividades diarias, mostrando así que la práctica de actividades físicas es un factor importante para la calidad del sueño.

**DESCRIPTORES:** Sueño; Actividad Motora; Anciano; Salud.

## RESUMO

**Objetivo:** Avaliar a qualidade do sono em idosos ativos. **Métodos:** Trata-se de uma pesquisa descritiva, transversal, observacional, com abordagem quantitativa. A amostra foi censitária, contemplando todos os idosos ativos matriculados no trabalho social com idosos (TSI) da empresa Serviço Social do Comércio (SESC). Foi aplicado um questionário validado abordando as variáveis relacionadas ao sono: O Índice de Qualidade do Sono de Pittsburgh (IQSP), além de dados referentes a idade e sexo dos participantes. **Resultados:** Cerca de 63% dos idosos apresentaram padrão de sono normal e 37% padrão alterado de acordo com o IQSP. Além disso, observou-se que 74,16% não fizeram uso de nenhuma medicação para auxiliar no sono. **Conclusão:** Pode-se concluir que, os idosos ativos apresentam majoritariamente um padrão de sono normal e, uma boa disposição para realizar as atividades diárias, mostrando assim, que a prática de atividades físicas é um fator importante para a qualidade do sono.

**DESCRIPTORES:** Sono; Atividade física; Idoso; Saúd.

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## INTRODUCTION

**S**leep quality is a factor of significant importance in the life of any human being, being classified as a basic physiological need of human beings.<sup>1</sup> The regular sleep pattern is essential to have a good quality of life, which is an indicator of vitality, mental health, physiological, emotional, cognitive and physical well-being.<sup>2,3</sup> A good quality of sleep has a fundamental homeostatic role for the functioning of the organism, being intrinsically associated with the functional capacity, physical aspects, pain, state, general health, vitality, social, emotional and mental health.<sup>4</sup> Therefore, its decrease can negatively influence the individual's well-being and consequently the health.<sup>5</sup>

The interruption of the regular sleep pattern is present in approximately 8 to 18% of the general population and about 50 to 70% in the elderly population.<sup>6</sup> The prevalence of sleep problems in the elderly is a relevant issue in our society. In aging, some factors such as urinary incontinence, sleep apnea, physical or emotional pain or discomfort, parasomnia, disturbances in the circadian rhythm, joint diseases, the need to take medication during the night, environmental factors, among others, lead to changes in their sleep pattern. Due to these problems, poor sleep quality has become one of the main complaints among the elderly.<sup>7,8</sup>

According to Richards<sup>9</sup>, people who have an irregular sleep pattern are more likely to have chronic illnesses. This propensity is due to metabolic and cardiovascular changes, with a

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significant decrease in quality of life.<sup>10</sup> In addition, regular sleep has a primary role in fixing and organizing memory and psycho-affective stability. Through dreams, emotional balance is established, therefore, a person who has an interruption in the regular pattern of sleep, presents changes in mood and a high rate of stress.<sup>11</sup>

The interruption in the regular sleep pattern can lead to emotional imbalance and, consequently, cognitive deficit, promoting the development of dementia, stress, anxiety, depressive disorders, making evident the important role of sleep in the decline of cognitive functions.<sup>12,13</sup> In addition to affecting mental health, studies report that poor sleep quality can also be a risk factor for worsening diseases.<sup>14</sup> Thus, the importance of sleep quality in the individual's health is notable. Taking into account that the elderly have problems related to sleep quality, research is needed to show non-pharmacological interventions for their improvement.

The American Sleep Disorders Association considers the practice of physical activities as a non-pharmacological intervention to improve sleep patterns.<sup>15</sup> Despite this, knowledge about the relationship between physical activity and quality of sleep still has gaps, requiring research in this area.<sup>16</sup> Thus, the following question arises: How is the quality of sleep classified in active elderly people?

Bearing in mind that the sleep pattern is an extremely important factor for life, and that the poor quality of sleep has been a prevalent issue of complaints among the elderly, the present

study aimed to assess the quality of sleep in active elderly.

## METHODS

This is a descriptive, observational, cross-sectional study with a quantitative approach, with a view to assessing the quality of sleep in active elderly people. The research was carried out at the Social Service of Commerce (Sesc) in the municipality of Campina Grande / PB, at the Açude Velho unit, and was developed in accordance with resolution 466/12.<sup>17</sup>

The company Sesc promotes activities with elderly people who participate

in the TSI. During 2019, 89 elderly people were practicing physical activities and participated in the TSI, which were divided into 4 groups. The meetings with each group were held weekly on Mondays, Tuesdays, Wednesdays and Thursdays, from 2:30 pm to 4:00 pm.

Data collection took place during the month of October 2019. As an inclusion criterion, we used: active elderly people who participated in water aerobics, swimming, gym and pilates activities, these being enrolled in Social Work with the Elderly (Trabalho Social com Idosos - TSI). The study excluded the elderly enrolled in the TSI who were inactive or who did not prac-

tice physical activities regularly.

Data collection was performed individually with each elderly person, the objective of the research was explained and the Informed Consent Form was delivered. Enough time was made available for the participant to read the term and really decide whether to volunteer to participate in the research or not. The term was signed in two copies.

The survey was conducted using the Pittsburgh Sleep Quality Index Form (Índice de Qualidade de Sono de Pittsburgh - IQSP). The form was applied with the help of the interviewer, using the clearest possible language so that the elderly did not have any difficulties in interpretation.

The questionnaire used (IQSP) assesses sleep quality in general by the score, distributed in categories with information about sleep latency, duration, medication use and the presence of excessive daytime sleepiness, where the score ranges from 0 to 21, where scores from 0-4 indicate good sleep quality, from 5-10 indicate poor quality and above 10 indicate sleep disturbance (SD).<sup>18</sup>

After data collection, Excel was used to tabulate and quantify the data, in relation to data analysis, they were treated in SPSS version 24 and presented using tables and graphs. A descriptive analysis of all variables was performed, using absolute and relative frequency measures for categorical variables and measures of central tendency and dispersion for continuous variables. For all statistical analyzes, the significance level of 5% was considered. Data collection started after the research project was sent to the ethics committee and received an approved opinion with CAAE number 18697119.7.0000.5175.

## RESULTS

The collected data consisted of a population of 89 elderly men and women, the latter majority with 95,5% of those

Table 1. Frequency distribution of the variables of age, sleep quality (IQSP) according to sex among elderly people enrolled in social work with the elderly (TSI) at the Social Service of Commerce (Sesc) company in Campina Grande - Paraíba, Brazil, 2019.

VARIÁVEL	n (89)	%	SEXO	
			Masculino (%)	Feminino (%)
<b>IDADE</b>				
60 a 70 anos	50	56,17	3 (75)	47 (55,29)
71 a 80 anos	34	38,20	1 (25)	33 (38,82)
81 a 90 anos	5	5,6	0 (0)	5 (5,88)
<b>IQSP</b>				
Normal	56	62,92	3 (75)	53 (62,35)
Alterado	33	37,08	1 (25)	32 (37,65)

Source: Author.

Graph 1. Frequency distribution of self-reported sleep quality by active elderly enrolled to elderly enrolled TSI at the Social Service of Commerce (Sesc) company in Campina Grande - Paraíba, Brazil, 2019.



Source: Author.

surveyed. Research participants were aged between 60 and 90 years. Among the data obtained, most were aged between 60 and 70 years old (56,17%) and, a small part between 81 and 90 years old (5,6%). Regarding sleep quality, it was observed that the majority of the population had sleep quality classified as normal (62,92%) (Table 1).

The data obtained and shown in Graph 1 show that 65,17% of the elderly reported good quality sleep, 21,35% very good quality sleep, 10,11% poor quality and only 3,37% reported a very poor sleep quality. Therefore, it is noted with these data that there is a prevalence of good sleep quality in the elderly surveyed, which confirms the importance of physical activity as a promising factor for sleep quality.

The data obtained also pointed out that a small part of them used some medication prescribed or on their own to help sleep during the month of September (2019). Of the 89 elderly people who participated in the survey, 66 (74,16%) did not take any hypnotics, 2 (2,25%) used medication less than once a week, 5 (5,62%) used medication once or twice times a week and 16 (17,98%) took medication to induce sleep about three or more times a week. Such result obtained and exposed in graph 2, may be associated with the fact that, as men-

**Thus, it can be observed that physical activities are a factor that significantly changes the quality of sleep in the elderly.**

tioned above, the practice of physical activities also has an effect similar to hypnotics, having the ability to induce sleep, making it unnecessary to take medication to help falling asleep.

## DISCUSSION

In the data obtained by the IQSP, it was quantified that 37,08% of the elderly had altered sleep quality, while about 62,02% had a regular pattern. A study by Monteiro and collaborators<sup>19</sup>, when evaluating elderly people in their homes, the following results were obtained: 69,4% of the elderly had poor sleep quality according to the IQSP (score greater than 5 points) and only 30,6% had good sleep quality. In this study by Monteiro<sup>19</sup> the elderly did not have physical activity as an inclusion criterion, which possibly contributed to the results pointing to a prevalence of poor sleep quality according to the IQSP.

Similar findings were found in another study by Araújo and Ceolim<sup>20</sup>, in order to analyze the quality of sleep in elderly residents of four long-term care institutions for the elderly (LTCF) in an inner city in the state of São Paulo. Where it was quantified that 63.1% of the elderly had poor quality of sleep, these in turn, showed impairment of independence for the development of activities of daily living (ADL), these elderly being inactive, without practicing any physical activity.

Thus, it can be observed that physical activities are a factor that significantly changes the quality of sleep in the elderly. A research by Ropke and colleagues<sup>21</sup>, with middle-aged and older adults with complaints of chronic insomnia in order to identify the effects of physical activity on improving sleep quality, concluded that physical activity is an effective treatment for improving sleep, having similarity to the effects of hypnotics, in addition to having antidepressant and anti-anxiety effects.

Graph 2. Frequency distribution in September of drug intake among active elderly people enrolled in the TSI to aid in inducing sleep, whether prescribed or on their own.



Source: Author.

Regarding the use of sedative hypnotics, Wannmacher<sup>22</sup> states that in the elderly there is an increase in the consumption of these drugs. In a research carried out with 22 elderly people, 18 women and 4 men, all of them used chronic benzodiazepines and the justification for their use was the difficulty to fall asleep, having these as a help to get to sleep.<sup>23</sup> Therefore, it is noted from the data collected that active elderly people hardly use sleep-inducing medications.

A study by Araújo and Ceolim<sup>20</sup>, in order to analyze the quality of sleep in elderly residents of four long-term care institutions for the elderly (LTCF) in an inner

city in the state of São Paulo, he pointed out that among the 38 elderly people who participated in the survey, about 34,2% presented moderate to high indisposition to perform daily activities. In the present study, the quantified data can be observed that a small part of the elderly referred to indisposition with a serious problem to carry out their daily activities, with about 4,50% of the elderly interviewed and, 67,42% reported not feeling any difficulty regarding disposition.

## CONCLUSION

From the data collected and quantified

in the present research with elderly people who practice physical activities, it can be concluded that the active elderly have a better quality of sleep compared to the inactive elderly portrayed in the literature, having fewer complaints regarding the factors that interfere with sleep, in addition to not including medication intake as an alternative for inducing sleep. In addition, it can be observed that the active elderly have a lower degree of indisposition to perform daily activities, which shows the effectiveness of sleep in these elderly people. Therefore, it can be said that the practice of physical activities is an important factor for a good and effective sleep quality. ■

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