

Rodrigo Marques da Silva

Wanderlan Cabral Neves

(Organizadores)

Resilience, Health and Human Aging



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PREFÁCIO

Esta obra foi desenvolvida junto a um grupo de alunos de Iniciação Científica de diferentes fases de formação dos cursos de saúde (Enfermagem, Farmácia e Fisioterapia) da Faculdade de Ciências e Educação Sena Aires, sendo, portanto, uma obra coletiva construída no Grupo de Pesquisa Trabalho, gestão e empreendedorismo em saúde, linha de pesquisa Stress, Coping e Saúde.

Além disso, pesquisadores colaboradores de outras instituições com domínio na área de envelhecimento humano foram convidados a fim de contribuir com a construção desse e- book, dando um olhar amplo, objetivo e atualizado sobre os conteúdos abordados.

Portanto, destaca-se que a obra está organizada em 5 capítulos construídos de forma cuidadosa, atualizada e detalhada, com informações sobre o assunto e com uso de uma linguagem clara e objetiva.


Desejamos uma ótima leitura a todos!

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SLEEP QUALITY IN HOSPITALIZED ELDERLY- LITERATURE REVIEW

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RESUMO: Objetivo: Analisar a produção científica sobre a qualidade de sono em idosos hospitalizados. **Método:** Trata-se de uma revisão bibliográfica realizada no período de março à

maio de 2022 na biblioteca eletrônica Scientific Electronic Library e nas bases de dados Literatura Latino Americana e do Caribe em Ciências Sociais e da Saúde. Para a busca, foram utilizadas as palavras-chave: Qualidade do sono, insônia, idosos hospitalizados. O termo booleano AND foi utilizado entre essas palavras na referida busca.

Resultados: Foram encontrados 43 artigos na busca inicial nas duas bases. Desses, 20 foram excluídos pelos critérios de elegibilidade, restando 23 artigos como amostra final de revisão. Após a leitura na íntegra e extração dos dados, os resultados foram agrupados em 4 categorias para melhor compreensão do assunto: Sono, suas etapas e importância para a saúde física e mental; Insônia em idosos hospitalizados; Fatores associados a qualidade do sono; Consequências da má qualidade do sono. **Considerações Finais:** Portanto verifica-se que o estudo da qualidade do sono é de extrema importância para garantir o bem estar dos idosos no ambiente hospitalar, e que se faz necessária a busca por medidas que melhorem a qualidade do sono, com o objetivo de promover melhorias na saúde física e mental dos idosos.

PALAVRAS- CHAVE: Qualidade do sono, insônia, idosos hospitalizados.

ABSTRACT: Objective: To analyze the scientific production on sleep quality in hospitalized elderly.

Method: This is a bibliographic review conducted from March to May 2022 in the Scientific Electronic Library and in the Latin American and Caribbean Literature databases in Social and Health Sciences. For the search, the following keywords were used: Sleep quality, insomnia, hospitalized

elderly. The term Boleyn AND was used between these words in the aforementioned search. **Results:** We found 43 articles in the initial search in both databases. Of these, 20 were excluded by the eligibility criteria, leaving 23 articles as the final sample of review. After reading in full and extracting the data, the results were grouped into 4 categories to better understand the subject: Sleep, its stages and importance for physical and mental health; Insomnia in hospitalized elderly; Factors associated with sleep quality; Consequences of poor sleep quality. **Final Considerations:** Therefore, it is verified that the study of sleep quality is extremely important to ensure the well-being of the elderly in the hospital environment, and that it is necessary to search for measures that improve sleep quality, with the objective of promoting improvements in the physical and mental health of the elderly. **KEYWORDS:** Quality of sleep, insomnia, hospitalized elderly.

INTRODUCTION

Sleep is a state we all feel and need for our survival. It is characterized by a physiological need, which has as biological functions the restoration of the organism and the conservation of energy, allowing our physical and emotional balance, so it is important that it is understood and respected (RENTE & PIMENTEL, 2004).

According to the National Continuous Household Sample Survey, the Brazilian population has maintained the aging trend of recent years and has gained 4.8 million elderly people since 2012, surpassing the mark of 30.2 million in 2017. Between 2012 and 2017, the number of elderly increased in all units of the federation, with the states with the highest proportion of elderly being Rio de Janeiro and Rio Grande do Sul, both with 18.6% of their populations within the group of 60 years or more (IBGE, 2018).

Physiologically, aging comes from successive and irreparable changes, resulting in progressive loss of function and homeostasis. Among the alterations is sleep, which, in the elderly, becomes more superficial and fragmented and, therefore, has lower efficiency and worse quality (BORGES SM et. al., 2010; FERREIRA OGL et. al., 2012). This aging, the body's natural process, modifies its physiology due to the loss of homeostasis, thus affecting the immune system. Once aged, its effectiveness in protecting the body against exogenous and endogenous agents is compromised and may trigger pathological conditions such as infectious diseases, autoimmune diseases and neoplasms in the elderly, a process called immunosenescence. As well as the immune, other systems are also impaired, among them, the endocrine and neurological, since for a proper functioning, both need to work in homeostasis. Therefore, studies are needed, since once affected they provide stress and the emergence of psychic disorders that, in addition to limiting quality of life, cause premature aging (MACENA, 2018).

Hospitalization can become frequent in old age due to increased chances of

developing chronic diseases as the population ages. Studies show that 53.3% of Brazilian elderly are hypertensive and 2.5% have neoplasms (MINISTRY OF PLANNING, BUDGET AND MANAGEMENT, 2010). The elderly are more vulnerable to chronic degenerative diseases, such as cardiovascular, cerebrovascular, cancer, mental disorders and those that affect the locomotor system and the senses (LEBRÃO ML, DUARTE YAO; 2007).

The experience of an unsatisfactory or insufficient sleep is quite unpleasant and has repercussions on performance, behavior and well-being during the activities of our daily life (GEOLIM MF et. al., 2001). In this context, health professionals face the challenge of dealing with both physiological changes in aging, chronic diseases and geriatric conditions, in addition to other factors responsible for dysfunctions and loss of independence of the elderly (GEIB LTC et al., 2003). Therefore, it is important to observe other changes in the sleep of the elderly, because the constant difficulty in sleeping can have an increased risk of fall, cognitive impairment, impairment of respiratory and cardiovascular function, increased mortality and the need for a nursing service that accompanies this elderly person (MISSILDINE K et. al., 2010).

Thus, this study aims to analyze scientific production in relation to sleep quality in hospitalized elderly.

METHOD

The methodology used to elaborate this work was the literature review. This comprises a survey of all bibliography already published in the form of books, magazines, newspapers, monographs, theses, single publications and cartographic material. Its purpose is to put the researcher in direct contact with everything that was written on a given subject (CARVALHO, 2019).

Data were collected from March to May 2022 in the Scientific Electronic Library Online (SciELO) electronic library and in the Latin American and Caribbean Literature on Social and Health Sciences (LILACS) databases. For the search, the following keywords were used: Sleep quality, insomnia, hospitalized elderly. The term Boleyn AND was used between these words in the aforementioned search.

Articles published in Portuguese (Brazil) and English available online and in full were included. Those published in other languages and without relevance with the theme were excluded. In addition, books, texts available in the libraries of public and private institutions were consulted.

Initially, an exploratory reading of the titles and abstracts was carried out to recognize

the articles that met the eligibility criteria. Then, the previously selected articles were read in full, and they were resubmitted to the inclusion and exclusion criteria. Finally, the selected materials were drawn, title, objective, results and conclusion in order to elaborate the polyoptic review table and perform the analysis of the object of this review.

RESULTS AND DISCUSSION

Forty-three publications related to the theme were found, 12 of which were eliminated by the initial reading of the titles, in the reading of the abstracts of the remaining articles according to inclusion/exclusion criteria, and 5 articles were eliminated because they were not related to resilience in higher education, 2 because they were not directly related to the theme, and 1 because it was not related to the health area. The remaining 23 articles were read and used in the final sample of the text.

Sleep, its steps and importance for physical and mental health

Sleep is a fundamental biological function in memory consolidation, binocular vision, thermoregulation, energy conservation and restoration (REIMÃO, 1996), and restoration of brain energy metabolism (FERRARA & DE GENNARO, 2001). Normal sleep varies throughout human development in terms of duration, stage distribution and circadian rhythm (POYARES & TUFIK, 2002; THORLEIFSDOTTIR, BJÖRNSSON, BENEDIKTSDOTTIR, GISLASON & KRISTBJARNARSON, 2002). The variations in the amount of sleep are greater during childhood, decreasing from 16 hours per day, on average, in the first days of life, to 14 hours at the end of the first month and 12 hours in the sixth month of life. After this age the child's sleep time decreases by 30 minutes a year until the age of five. In adulthood the amount decreases and the sleep cycle varies depending on age and external factors. With advancing age, there are losses in duration, maintenance (FERRARA And DE GENNARO, 2001) and quality (TRIBL et al., 2002) of sleep. Pain, the use of medications and different clinical conditions are examples of factors that can affect the amount and quality of sleep, especially among the elderly, who are more prone to these conditions (MCCRAE et al., 2003).

Experts point out that quality sleep improves the physical, mental and emotional balance of the human being, strengthens the immune system, helps prevent diseases and has great importance for the proper functioning of the brain. According to pulmonologist Luciana Palombini, there are two main functions of sleep: the rest of the body and the preparation for the next day. "When we sleep, there is the cleansing of toxins that are accumulated during the day. It's not just rest. The brain goes through a type of preparation so that we can act well after waking up", he says, noting that studies also point to the

great potential of sleep for memory preservation. “During the stages of sleep, there is an organization of memory in which less useful memories are discarded, so to speak, so that there is a brain reserve for conservation of others.” According to Luciana, today science considers that toxins accumulated when the person does not sleep can increase the risk of dementia (PERES, 2016).

When we sleep, we usually go through five distinct phases of sleep: stages 1, 2, 3, 4 and REM (rapid eye movement). These stages progress in a cycle, from stage 1 to REM sleep, and then the cycle begins again with stage 1. On average, 50% of the total sleep time in stage 2 is spent, about 20% on REM sleep and 30% in the other stages. Unlike adults, infants spend about half of their sleep time in REM sleep (MAGALHÃES, et al; 2007).

During stage 1, which is superficial and fleeting, we plunge into sleep, turn to wakefulness and can be awakened with ease. In the EEG, this stage is characterized by the presence of low amplitude and frequency waves from 3 to 7Hz (theta waves). The eyes move very slowly and muscle activity gradually becomes slower. When we awaken from this stage, it is often possible to have fragmented memories of environmental events that occurred in the period. Many people have sudden muscle contractions, known as ‘hypnic myoclonus’, often preceded by a feeling of falling. These sudden movements are similar to the shudder that happens when we get scared. When you’re in stage 2, your eye movements stop, and your brain waves become slower. The so-called K complexes appear, which are accompanied by occasional surges of 5 to 7 waves of 12 to 15Hz, in the form of growing-decreasing, the so-called ‘sleep spindles’. In stage 3, extremely slow waves (0.3 to 2Hz) begin to appear, so-called delta waves, interspersed with smaller, faster waves. In stage 4, the waves are almost exclusively delta frequency. It is very difficult to wake someone up during stages 3 and 4, which together are called delta stage or deep sleep. At this stage, there is no eye movement or muscle activity. People awake during deep sleep do not immediately orient themselves and often feel disoriented for a few seconds after they awaken. It is common, in children, the occurrence of nocturnal enuresis, night terror or sleepwalking during deep sleep. Stages 1, 2, 3 and 4 are called joint non-REM sleep (NREM) (JANSEN, et al; 2007).

When we move on to REM sleep, our breathing becomes faster, more irregular and shallower. Heart rate and blood pressure become variable. Muscle atony occurs, which affects the entire body musculature, except the diaphragm and oculomotor muscles. The eyes move in several directions, in rapid outbreaks, at regular intervals, and in men, penile reaction occurs. When people are awakened during REM sleep, they often describe bizarre and unjust stories that make up their dreams. In EEG, REM sleep is characterized by waves in the mixed frequency range, with low voltage, within the theta range. The desynchronization

of the EEG results from the activation of the mesencephalic reticular formation. The tit waves take on at times an aspect similar to saw teeth. Alpha activity also occurs (usually 1 to 2 cycles lower than alpha wakefulness activity). The first period of REM sleep usually occurs about 70 to 90 minutes after the onset of sleep. A complete sleep cycle lasts between 90 and 110 minutes. The first sleep cycles each night contain relatively short periods of REM sleep and long periods of deep sleep. As the night goes by, REM sleep periods increase while deep sleep periods decrease. In the morning, people spend almost their entire period of sleep in stages 1, 2 and REM (JANSEN, et al; 2007).

Insomnia in hospitalized elderly

Sleep and rest are essential for the physical and mental health of the individual, constituting one of the physiological needs among the hierarchical Basic Human Needs (SCHLUTER JD, et al;1989). When deprived of sleep the body can suffer numerous consequences, such as: drowsiness, fatigue, irritability, difficulty concentrating, impaired performance for complex activities, increased sensitivity to pain and discomfort, impairment of vital processes such as healing of bone and tissue losses (influenced by growth hormone that is released during sleep) (MAILLOUX-POIRIER, et al;1995).

It is common, during hospitalization, for patients to complain about not being able to sleep and rest, because in this period he is subject to an unknown environment, with new routines, has limited independence and feels pain and discomfort (MAILLOUX-POIRIER, et al;1995). There is also the finding that the main obstacles to sleep in the ICU are activity, noise, pain, physical condition, nursing procedures, lights and, sometimes, hypothermia itself motivated by the cold of air conditioning (CARPENITO,1997).

The International Classification of Sleep Disorders conceptualizes insomnia as a “Sleep Onset and Maintenance Disorder”, which can be transient (lasting days or weeks) or chronic (persisting for months) and have as symptoms the difficulty to start sleep, to remain asleep (at night or early in the morning) and the feeling of tiredness or daytime sleepiness (DREYFUS, 1994). According to data from the World Health Organization (WHO), released by the Brazilian Sleep Society, this is the most prevalent sleep disorder in Brazil, reaching 40% of the population, and is now considered a public health problem (BRAZILIAN SLEEP SOCIETY; 2002). There is an increased risk of developing the disorder with age: people over 65 years are 1.5 times more likely to have insomnia than younger people (ROTH, 2000). It was also found that the percentage of people who report poor sleep is less than 5% among young people and reaches 20% among the elderly (DREYFUS, 1994).

With aging it is normal that changes occur in the sleep pattern of the individual, such as: increased frequency and duration of nocturnal wakefulness (increasing fatigue and

daytime naps); lower tolerance to changes in sleep/wake programming; greater sensitivity to environmental noise; longer time to reconcile sleep; reduction of daily sleep needs from 8 (average sleep time for adults) to 6 hours daily (MAILLOUX-POIRIER, et al; 1995).

All these alterations predispose the elderly to the development of insomnia, with an increased risk when common diseases are added in the elderly, i.e.: cardiovascular (angina, congestive heart failure, hypertension); respiratory (chronic bronchitis, asthma); digestive tracts (gastroesophageal reflux, dyspepsia, flatulence); genitourinary (urinary incontinence, nituria); endocrine (diabetes); (Alzheimer's disease, Parkinson's disease, stroke); psychiatric conditions (depression, anxiety); (RHEUMATOID ARTHRITIS)(MAILLOUX POIRIER, et al; 2000).

Thus, it is understood then why the disorder is so common in this age group and that hospitalization may negatively intensify this situation, requiring specific interventions from nursing both in order to treat, as well as to prevent this sleep disorder. However, often what is observed in practice is inattention to the patient's sleep, such as lights on at night, noise of the staff inside the ward, lack of respect for the patient's privacy and individuality, among others, something that goes against one of the nursing duties that is to provide comfort, sleep and rest to the patient (COSTA ML, et al; 2004).

Factors associated with sleep quality

It is during sleep that the body performs the main restorative functions of the body, such as tissue repair, muscle growth and protein synthesis. During this time, it is possible to reset energies and regulate metabolism, essential factors to keep body and mind healthy. Sleep is essential for the body, because it is at this time that there are several important reactions such as the regulation of endocrine functions, restoration of energy and brain metabolism, tissue repair, in addition to memory consolidation. (FERNANDES, 2019).

For many elderly, napping during the day can be beneficial and there are reports of waking up more willing and rested. It is recommended that naps do not exceed 30 minutes so as not to impair night sleep. In people with difficulty sleeping, naps should be avoided. (SLEEP INSTITUTE, 2021)

Proper sleep helps the body recover from diseases and injuries, facilitates the production of growth hormone, reduces stress, controls appetite, improves mood, memory and reasoning, facilitates oxygenation of cells, improves intellectual activity, among others. (VALMIR, 2018)

Studies show that, for the adult individual, the normal average is 7 to 8 hours. Children and adolescents need longer sleep time because, among other things, sleep is important for growth, since there is a great release of growth hormone during sleep. (SILVEIRA, 2020)

It is very important, the child sleeps early, the adolescent has on average need 9 to 10 hours of sleep. The sleep pattern from the child to the adolescent changes a lot, the adolescent has what is called “phase delay”. He tends to sleep later and wake up later, however we have a school routine that starts very early. So if teenagers go to sleep too late and wake up too early, they end up having sleep deprivation. And the other day at school, they have drowsiness, low income. With aging, this amount of sleep decreases. But ideally, if you had 7 to 8 hours of sleep, remembering that a sleep needs to be quality. (SILVEIRA, 2020)

Consequences of poor sleep quality

With aging, sleep complaint becomes more frequent, with a prevalence ranging from 15-62% depending on the geographic region and the population studied. Despite the high frequency, sleep disorders cannot be considered “normal” for the elderly. (BARRETO, 2020)

The main diseases related to poor sleep quality in the elderly are: depression, mood and anxiety disorders, heart disease, diabetes, chronic obstructive pulmonary disease, chronic pain, gastrointestinal disease, Alzheimer’s and Parkinson’s disease. (PEREIRA AND CEOLIM, 2011)

Sleep is characterized by specific behavioral, neurophysiological, and biochemical changes. In terms of behavior, there is a reduction in motor activity, decreased response to external stimuli, stereotyped posture and easy reversibility. (BARRETO, 2020)

Sleep problems in older adults happen due to natural changes in lifelong physiology. The factors that contribute to this can be grouped into four categories: physical discomfort, environmental factors, emotional discomfort and changes in sleep pattern. (PERSONO, 2021).

FINAL CONSIDERATIONS

Patient assessment regarding the need to sleep and rest is still performed superficially, something that could compromise care planning. This situation, in turn, points to the need for permanent training of professionals. The therapeutic and preventive actions for insomnia described by professionals focus on promoting comfort, reducing anxiety and administering drugs.

Therefore, it is up to the professional responsible for the care of these patients to assess not only immediate aspects such as pain and illness, but also to expand their assessment, also including the quality of sleep of these elderly people, which may be compromised, indicating that the need for adequate rest must be met.

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