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INTEGRATIVE REVIEW ARTICLE

SLEEP CHANGES AND INTERFERENCE IN QUALITY OF LIFE IN AGING

ALTERAÇÕES DO SONO E A INTERFERÊNCIA NA QUALIDADE DE VIDA NO ENVELHECIMENTO

ALTERACIONES DEL SUEÑO Y LA INTERFERENCIA EN LA CALIDAD DE VIDA EN EL ENVEJECIMIENTO

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ABSTRACT

Objective*:** to identify sleep disorders that interfere with quality of life during the aging process. ***Method*:** integrative review in which a temporal cut of articles published in the last five years was used in Portuguese, English or Spanish on the MEDLINE, LILACS and SCOPUS databases. The sample was ten articles. ***Results*:** the studies subsidized the construction of three categories, the aging process and the habitual alterations of sleep; sleep disorders due to the typical pathologies of the aging process and the implications of sleep disorders on the quality of life in aging. ***Conclusion*:** the sleep disorders evidenced in most studies turn to the needs of health professionals to provide a better quality of life for the elderly. ***Descriptors: Aging; Sleep Disorders; Quality of Life.

RESUMO

Objetivo: identificar as alterações do sono que interferem na qualidade de vida durante o processo de envelhecimento. ***Método:*** revisão integrativa em que foi utilizado um recorte temporal de artigos publicados nos últimos cinco anos, em português, inglês ou espanhol nas bases MEDLINE, LILACS e SCOPUS. A amostra foi de dez artigos. ***Resultados:*** os estudos subsidiaram a construção de três categorias, o processo de envelhecimento e as alterações habituais do sono; distúrbios do sono em função das patologias típicas do processo de envelhecimento e implicações dos distúrbios do sono na qualidade de vida no envelhecimento. ***Conclusão:*** as alterações do sono evidenciadas na maioria dos estudos voltam-se às necessidades de acompanhamento dos profissionais de saúde em possibilitar uma melhor qualidade de vida à pessoa idosa. ***Descritores:*** Envelhecimento; Distúrbios do Sono; Qualidade de Vida.

RESUMEN

Objetivo: identificar las alteraciones del sueño que interfieren en la calidad de vida durante el proceso de envejecimiento. ***Método:*** revisión integradora en que fue utilizado un recorte temporal de artículos publicados en los últimos cinco años, en portugués, inglés o español en las bases MEDLINE, LILACS y SCOPUS. La muestra fue de diez artículos. ***Resultados:*** los estudios subsidiaron la construcción de tres categorías, el proceso de envejecimiento y las alteraciones habituales del sueño; disturbios del sueño en función de las patologías típicas del proceso de envejecimiento y implicaciones de los disturbios del sueño en la calidad de vida en el envejecimiento. ***Conclusión:*** las alteraciones del sueño evidenciadas en la mayoría de los estudios se dirigen a las necesidades de acompañamiento de los profesionales de salud en posibilitar una mejor calidad de vida a la persona anciana. ***Descriptores:*** Envejecimiento; Trastornos del Sueño; Calidad de Vida.

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INTRODUCTION

The process of aging is part of the nature of the human being since it starts from the birth of the individual and lasts until the moment that his life comes to an end. The population aging rate in the current projection shows an increase of 13.8% in 2020 and 33.7% in 2060. The rate of elderly people aged 60 and over will be greater than the group of children up to 14 years old after 2030, which shows that in 2055 the participation of the elderly in the total population will be greater than children and youths up to 29 years old.[1]

A study has shown the meaning of quality of life as the way in which the individual is perceived in the daily context that surrounds him, involving interpersonal relationships, health aspects, cultural, ideological, behavioral and situational values.[2] The durability of life related to the elderly people and due to the increase in the aging rates reflects the context of the present society and highlights the possibility of the interest of studies with emphasis on the physical and emotional well-being factors of the elderly person, in a way that highlights factors related to their Quality of life.[2]

Given the considerable increase in Brazilian and world life expectancy, the elderly person may become fragile and present cognitive alterations and problems related to sleep[3], since the aging process causes changes in their characteristics, both in quality and in total hours asleep.[4] It plays an important role in homeostasis, whose imbalance favors the onset of mental disorders, decreased immunological competence, impaired physical performance and adaptive difficulties, causing increased vulnerability of the elderly organism.[4]

Most elderly people often complain of sleep disorders. The main complaints consistent with poor quality are the shallow sleep, frequent interruptions during the night due to nocturia and the difficulty in initiating it.[5] These factors can contribute to the production of disorders, such as excessive daytime sleepiness (SED), and consequently increased daytime naps, morning sensation of non-restful sleep, immune suppression, decreased physical capacity, frequent falls and cognitive decline that are markers of poor quality of physical and mental health, as well as negatively affecting quality of life.[4]

The identification of sleep quality of these individuals is important for the development of strategies capable of attending to the growing demands of this population.[3] Therefore, health professionals need to consider the planning of preventive actions about cognition to maintaining autonomy and independence in the daily activities of these elderly people.[6]

Often, professionals fail to consider the implications of poor sleep quality in daily life and even on the health of the elderly, neglecting their potential to cause impairment in the quality of life of this population.[7] In this sense, the results of this study may contribute to identifying the knowledge about the changes in the sleep that interfere with the quality of life of the old person and subsidize the health services in the planning of the care in the promotion of the quality of life. Understanding the importance of the theme presented, this study was based on the following guideline question << What sleep changes interfere in the quality of life of the elderly person? >. Thus, it was aimed to identify sleep disorders that interfere with quality of life during the aging process.

METHOD

This is an integrative review, carried out from six stages for its development: 1) elaboration of the guiding question, 2) search or sampling in the literature, 3) categorization, 4) critical analysis of the included studies, 5) discussion of the results and 6) synthesis of the integrative review. In this context, a review protocol was prepared in advance to guide the development of the research and the accomplishment of all six suggested stages.

At the beginning of the study, an IR protocol was developed to mediate the search or sampling and development of the research equally to the two researchers. The identification of the subject, the objective, selection of the guiding question, selection of the study sample through the search strategy in the databases using controlled keywords, elaboration of the inclusion and exclusion criteria of the study, categorization of results, evaluation of the studies included in the review and synthesis of knowledge.

The guiding question that subsidized the development of the research was: what are the sleep changes that interfere with the quality of life of the elderly person? A survey of the texts was carried out in the electronic databases CINAHL, SCOPUS and LILACS (Latin American and Caribbean Literature in Health Sciences) to select the study sample in the month of March Of 2015, with the keywords indexed in MeSH “Aging” (1st) or “sleep disorders” (2nd); “Quality of life” (3rd) were used.

These keywords enabled two crossings (#), which were inserted respectively in all the selected databases: #1) *"aging" AND "sleep disorders"; #* 2) *"aging" AND "sleep disorders" AND "quality of life."*

Each database was accessed by two researchers simultaneously on different computers without communication to ensure the most accurate selection and the largest number of articles important for the research. Regarding the temporal cut, all the publications available in each database over the last five years have been captured to providing a collection of current articles that deal with the object of the study.

The inclusion of the publications in this integrative review was: complete original articles available, free of charge in the selected databases, which address sleep disorders and quality of life in the elderly, available in English, Spanish or Portuguese. The exclusion criteria applied were: editorial articles, letters to the editor, expert opinion or reviews.

Keywords	Medline	Scopus	Lilacs
("aging" OR "sleep disorders") AND ("envelhecimento" OR "distúrbios do sono")	294	542	10
("aging" OR "sleep desorders" OR "qualityoflife") AND ("envelhecimento" OR"Distúrbios do sono" OR "qualidade de vida")	28	69	4
Total	322	611	14
Total articles found on all bases = 947			

Figure 1. Search strategies used in databases. Natal, 2015.

RESULTS

During the research, there were 947 articles identified in the four databases cited, through the crossings: #1: 846 articles (MEDILINE = 294; SCOPUS = 542; LILACS = 10); #2: 101 articles (MEDLINE = 28; SCOPUS = 69; LILACS = 4).

Repeated articles were considered only once. After completing the initial data collection stage and applying the inclusion and exclusion criteria by reading each article, the sample consisted of 11 articles.

In Figure 2, the 10 articles that compose the final sample of this study are presented. During the analysis of the texts in full, the predominance of the studies was perceived by choosing the cohort type of research design.

CID	Year of publication	Country of origin	References	Keywords	Method
01	2011	Australia	Magee CA, Caputi P, Iverson DC. Relationships between self-rated health, quality of life and sleep duration in middle-aged and elderly Australians. Sleep Medicine. 2011.12:346-50.	Short sleep long sleep Self-perception of health Quality of life Aging Epidemiology	Cross-sectional study
02	2014	Brazil	Moraes W, Piovezan R, Poyares D, Bittencourt RL, Silva RS, Tufik S. Effects of aging on sleep structure throughout adulthood: a population-based study. Sleep Medicine 15 (2014) 401–409	Aging Structure of sleep The stages of sleep Sleep apnea Polysomnography	Cohort Study
03	2010	Brazil	Oliveira BHD, Yassuda MS, Cupertino APFB, Neri AL. Relações entre padrão do sono, saúde percebida e variáveis socio econômicas em uma amostra de idosos residentes na comunidade - Estudo PENSA. Ciência& Saúde Coletiva, 15(3):851-860, 2010.	sleep Aging Sleep Disorders, Insomnia Apnea perceived health	Cohort Cross-sectional Study
04	2012	Switzerland	Sutter C, Allemand MZJ, Martin M. Sleep Quality and Cognitive Function in Healthy Old Age: The Moderating Role of Subclinical Depression. Neuropsychology 2012 American Psychological Association 2012, Vol. 26, No. 6, 768 –775.	Sleep quality, Aging, Cognition, Subclinical Depression	Cohort Study
			S. Miyata et al. Poor sleep quality	Memory performance,	

05	2013	Japan	impairs cognitive performance in older adults. J Sleep Res.(2013) 22, 535–541.	Sleep duration, Sleep Disorders	Cross-sectional
06	2013	China	Luo J et al. Prevalence and Risk Factors of Poor Sleep Quality Among Chinese Elderly in an Urban Community: Results from the Shanghai Aging Study. Plos One. 2013;8(11):1-7.	Sleep Disorders Aging Elderly	Cross-sectional study
07	2011	USA	Crowley K. Sleep and Sleep Disorders in Older Adults. NeuropsycholRev (2011) 21:41–53.	Aging Sleep Disorders Sleep Disorders Insomnia Apnea	Study Descriptive
08	2011	Spain	Mesas AE et al. The association between habitual sleep duration and sleep quality in older adults according to health status. Age and Ageing2011;40:318–323	Duration of sleep Sleep Disorders Aging Elderly	Cohort Study
09	2013	Spain	Valenza MC et al. Nursing homes: Impact of sleep disturbances on functionality. Elsevier Ireland Ltd. Allrightsreserved56 (2013) 432–436.	Homes for the Elderly Aging Elderly Quality of Sleep	Cohort Study
110	2012	Brazil	Lima MG, Barros MBA, Alves MGCP. Sleep duration and health status self-assessment (SF-36) in the elderly: a population-based study (ISA-Camp 2008). Cad. Saúde Pública, Rio de Janeiro, 28(9):1674-1684, set, 2012	Quality of life Sleep Aging Elderly	Cohort Study

Figure 2. Characterization of articles according to a year of publication, country of origin, article reference, keywords, and method.

As for the sleep changes that interfere with the quality of life during the aging, it was categorized: (1) The aging process and the habitual alterations of the sleep; (2) Sleep disorders as a function of aging process pathologies; And (3) Implications related to poor sleep quality and the quality of life reflex in aging.

As noted, Figure 3 shows sleep changes that interfere with quality of life during aging.

For the characterization of the selected articles, a synthesis table was constructed composed of the year of publication, country of origin, reference, study approach, and method. In this way, three categories emerged: The aging process and the habitual sleep disorders; Sleep disorders due to the typical pathologies of the aging process; And Implications of Sleep Disorders on Quality of Life in Aging.

Sleep changes	
Clinical manifestations	N
Excessive daytime drowsiness	Artigos 1,2,3,4,6 e 10 Artigos 1,4,5,6,8 e 9
Fragmented Sleep (Night Awakenings)	Artigos 3,4,5,6 e 10
Insomnia	Artigos 4,5,6,7 e 8
Reduced Sleep Time	Artigos 4,5,6 e 9
Irregular Sleep - Rhythm sleep disorder	Artigos 2,3,4 e 5
Sleep and rhythm sleep without standard 24 hours	Artigos 4,5,6 e 8

Figure 3. Sleep disorders during aging.

DISCUSSION

♦ The aging process and the habitual sleep disorders

Sleep is a condition of restoration and rest of the body and mind inherent to every human being independent of his age. It is during sleep that the body is disconnected from external processes that surround it. Because it is a restorative and necessary function for continuity and quality of life, it is necessary for health professionals to know how to identify and differentiate normal sleep in the process of sleep disorder.

A study showed the quality of self-reported sleep associated with the cognitive performance of healthy aging. Considering

that the worse the quality of sleep of the individuals, the greater the commitment to perform cognitive tasks.[8]

Another study corroborates the emphasis on changes in sleep quality as a consequence of the typical disorders of the aging process, ranging from cognitive changes to physical health impairment. Changes of the cognitive level involves the loss of the functional capacity of the elderly person, associated with the risk of falls, decreased autonomy, increasing the vulnerability of these elderly people.[3]

The process of senescence shows changes in the circadian cycle, which consists of a biological clock that repeats approximately every 24 hours, establishing control in several vital signs of the organism: blood pressure and temperature, and also on the production of hormones, sensation of hunger, digestive activity, functioning of the kidneys and intestines.[9,2]

The lack of control caused by the aging process in the circadian cycle generates direct consequences of the fragmentation of sleep, altering the rest periods of the elderly person. When this happens, the elderly person has daily naps, or has an early sleep, and gets up earlier, interfering with their daily performance, causing daytime fatigue, and generating changes in the elderly person´s routine.[5]

♦ Sleep disorders due to the typical pathologies of the aging process

Sleep disorders have a significant and negative effect on physical and mental health. In the elderly, these disorders have a greater impact, as they may be mistaken for dementia or cognitive impairment due to age.[6]

The misinterpretation of the sleep disorders developed in the elderly person can generate a late response by health professionals, which leads to a decrease in driving capacity and increases the risk of falls.[10]

Studies have shown that insomnia as one of sleep disorders is associated with decreased survival due to mortality from heart disease, stroke, cancer or suicide, and it is up to twice as high in elderly people who have sleep disorders than those who sleep well.[10]

Other authors have shown that dementia patients have an underlying number of associated sleep disorders, including insomnia, hypersomnia, circadian cycle disorders and nighttime agitation and behavior.[11]

These sleep disorders experienced in the aging process involve a public health problem that affects the context of the entire population, since it limits the condition of the elderly person, interfering with the family environment, a situation in which the family often needs to resort to the institutionalization of the elderly.[1-3]

Patients with Alzheimer´s disease, one of the most common pathologies in the aging process, present a decrease in sleep efficiency, sleep-wakefulness, especially at the onset of the disease. The fragmentation of sleep leads to even greater changes in the picture, increasing the cognitive decline, which leads the patient to stay longer lying in bed in an awake state, and still causing disorientation and confusion. These are consequences of the severity of circadian rhythm disorders, and they are related to the degree of dementia.[11]

In Parkinson´s disease, sleep disorders are also frequent and adversely affect their quality of life. The frequency of sleep complaints is estimated between 60% and 90% and correlate with the increased severity of the disease. Typical sleep abnormalities include fragmented sleep, with an increase in the number of arousals, motor phenomena such as night immobility, resting tremor, blinking eyes, dyskinesia, and other phenomena such as sleep attacks.[11]

♦ Implications of Sleep Disorders on Quality of Life in Aging

A study carried out in Switzerland which provides data on the development of China and Asian countries states that two out of five elderly people in China Urbana sleep poorly, this prevalence stems from the increase in the elderly population. Also, studies focused on poor sleep quality in aging are a matter of public health and not just a clinical practice. Inclusion of comprehensive psychosocial activities for the elderly can alleviate sleep disorders and provide a better quality of life for the elderly population.[8]

An ongoing evaluation of the elderly involves effective treatment strategies related to sleep disorders. Studies show the relationship between poor sleep quality and the loss of autonomy in the elderly, and preservation of functionality in aging being a matter of preserving quality of life.[12]

Other studies show that it is important to diagnose and treat insomnia in the elderly, as poor sleep can lead to serious consequences, including poor quality of life and impaired cognitive function.[13] They further show that people who sleep between seven-eight hours of sleep, compared to those who sleep less than four hours, have greater cognitive

deficits. Also, the aging harms the domains of memory and reasoning.

A cross-sectional study was conducted in Australia that showed sleep duration, with the self-rated health-related quality of life. It pointed out that individuals who sleep less than six hours a day, and those who sleep more than nine hours a day, have a self-rated low health index, with sleep associated with a low evaluation measure, both short sleep and associated with low self-evaluation and lower quality of life.[14] This study emphasizes the importance of adequate sleep in physical and mental health.

The structure of sleep and its duration undergo significant changes throughout the aging process, with the advancing age being essential factor as a consequence of sleep disturbances.[15]

Thus, the objective of this study was to observe the relationship between sleep disorders associated with aging. Authors still show the prevalence of changes related to insomnia, symptoms of apnea and parasitic with socioeconomic and self-perceived health variables as typical features of aging.[16]

CONCLUSION

The quality of sleep stands out as the most frequent complaints of the elderly. Changes in the aging process can be observed at various levels of architecture and sleep quality. Thus, the main sleep-related changes in aging were insomnia, apnea, parasomnia, circadian rhythm disorders.

Changes caused by pathologies, such as stroke, Alzheimer's and Parkinson's, need to be investigated early. The quality of sleep acts in the prevention of aggravations to the health of the elderly, as well as educational and psychosocial activities, are indicated in the prevention of these disorders or to minimize problematic that involves the people in the process of aging so that they have a better quality of life.

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