



TRIGGERING ASPECTS OF THE SLEEP DISORDERS IN WOMEN: LITERATURE REVIEW

ASPECTOS DESENCADEANTES DOS TRANSTORNOS DO SONO EM MULHERES: REVISÃO DE LITERATURA

ASPECTOS DESENCADENANTES DE LOS TRANSTORNOS DEL SUEÑO EN MUJERES: REVISIÓN DE LITERATURA

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ABSTRACT

Objective: to identify in the scientific literature the factors that contribute to the occurrence of sleep disorders in the female population. **Methodology:** it is an integrative literature review, conducted between May and July 2012, in electronic databases, LILACS and MEDLINE, with the use of descriptors in Health Sciences: *sleep, women and sleep disorders*. The results were presented in tables with frequencies and percentages and the discussion centered on the most relevant aspects of the studies. **Results:** most of the articles have mentioned as intervening factors of sleep disorders in women: hormonal oscillations, period of breastfeeding, aging, obesity, chronic diseases, depression and anxiety, hospitalization process and some types of treatment of pathologies. **Conclusion:** before the variety of factors that influence with sleep quality in women, it is imperative that the health professionals formulate strategies in an attempt to sooth them, through guidance regarding the importance of adopting measures of sleep hygiene. **Descriptors:** Sleep; Women; Triggering Factors; Sleep Disorders.

RESUMO

Objetivo: identificar na literatura científica os fatores que contribuem para a ocorrência de transtornos do sono na população feminina. **Metodologia:** revisão de literatura integrativa, realizada no período de maio a julho de 2012, nas bases de dados eletrônicas, LILACS e MEDLINE, com o emprego dos descritores em Ciências da Saúde: *sono, mulheres e transtornos do sono*. Os resultados foram apresentados em tabelas com frequências e percentuais e a discussão centrada nos aspectos mais relevantes dos estudos. **Resultados:** a maioria dos artigos mencionou como fatores intervenientes dos distúrbios do sono em mulheres: oscilações hormonais, período da amamentação, envelhecimento, obesidade, doenças crônicas, depressão e ansiedade, processo de hospitalização e alguns tipos de tratamento de patologias. **Conclusão:** diante da variedade de fatores que influencia na qualidade do sono de mulheres, torna-se imperioso que os profissionais de saúde formulem estratégias tentando amenizá-los, através de orientações quanto à adoção de medidas de higiene do sono. **Descritores:** Sono; Mulheres; Fatores Desencadeantes; Transtornos do Sono.

RESUMEN

Objetivo: identificar en la literatura científica los factores que contribuyen para el acaecimiento de trastornos del sueño en la población femenina. **Método:** revisión de literatura integrativa, realizada en el periodo de mayo a junio de 2012, en las bases de datos electrónicas LILACS y MEDLINE, con el empleo de los descriptors en Ciencias de la Salud: *sueño, mujeres y trastornos del sueño*. Los resultados se presentaron en tablas con frecuencias y porcentajes y la discusión centrada en los aspectos más relevantes de los estudios. **Resultados:** la mayoría de los artículos mencionó como factores intervenientes de los disturbios del sueño en mujeres: oscilaciones hormonales, periodo de amamantamiento, envejecimiento, obesidad, enfermedades crónicas, depresión y ansiedad, proceso de hospitalización y algunos tipos de tratamiento de patologías. **Conclusión:** ante la variedad de factores que influencia en la calidad del sueño de mujeres, se hace imperioso que los profesionales sanitarios planteen estrategias intentando paliarlos, a través de orientaciones respecto a la adopción de medidas de higiene del sueño. **Descriptor:** Sueño; Mujeres; Factores Desencadenantes; Trastornos del Sueño.

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INTRODUCTION

The sleep is a physiologic process and behavioral that is essential to the proper functioning of the organism. Thus, the sleep mentioned by the individual itself and its impact on daily life of healthy people or patients has become one of the main focuses of attention of researchers.

The knowledge of sleep quality started to be considered an important clinical contrivance to identify health problems, including sleep disorders.¹

The American Academy of Sleep Medicine has listed four main categories of sleep disorders, which are: disorders for initiating and maintaining sleep (insomnias), disorders of the sleep-wake cycle, disorders associated with the sleep, sleep stages or partial awakening (parasomnias) and disorders of excessive sleepiness.²

Sleep disorders occur in about 12% to 25% of the general population.² Insomnia is the most common sleep disorder in individuals, having a higher prevalence among women.³

Several factors contribute to the occurrence of sleep disorders in the female population, namely: hormonal oscillations (premenstrual period, pregnancy and perimenopause), greater predisposition to depression and clinical picture of anxiety.⁴ Furthermore, lifestyle (sedentarism, alcoholism, smoking and overload of activities), aging, obesity, chronic diseases, hospitalization process, life situations (breastfeeding), and some types of treatment of pathologies can also favor its appearance.

OBJETIVE

- Identify in the scientific literature the factors that contribute to the occurrence of sleep disorders in the female population.

METHOD

This is a descriptive study, with integrative literature review, which was conducted in electronic databases, LILACS (Latin American and Caribbean Health Science Literature) and MEDLINE (Medical Literature Analysis and Retrieval System Online), by using the descriptors Health Sciences: sleep, women and sleep disorders.

For the development of this study, we went through the following steps: establishment of the hypothesis and objective of the integrative review; establishment of inclusion

criteria and exclusion of articles; definition of information to be extracted from the selected articles; analysis of the results; discussion and presentation of the results and the last step, which is the presentation of the review.

To guide this research, we formulated the question: what are the triggering factors of sleep disorders in women?

We used as inclusion criteria: articles that addressed the theme of sleep in women, which had as focus the intervening factors, which were published in the last five years, which had their online full texts freely accessible and articles in English, Spanish and Portuguese. The search was carried out from May to July 2012.

For analysis and subsequent synthesis of the selected articles, a synoptic table was built, which covered aspects considered pertinent: names of the authors, year and place of publication; objectives of the studies and the intervening factors of the sleep disorders (Figure 1). The discussions were focused on the most relevant aspects of the studies on the theme of sleep in the female population, which addressed the intervening factors.

The data used in this study were properly referenced, respecting and identifying their authors and other research sources, observing ethical rigor regarding the intellectual property of the scientific papers that were surveyed, as regards the use of content and citation of parts of the consulted works.

RESULTS AND DISCUSSION

All articles were published in internationally indexed journals, and the *Journal Sleep* (03) and the *Revista de Psiquiatria Clínica* (03) the periodicals that have more addressed issues related to sleep in women, followed by the *Revista Latino-Americana de Enfermagem* (02), *Revista Brasileira de Enfermagem* (01), *Revista de Enfermagem UERJ* (01), *Revista Ciência e Saúde Coletiva* (01), *Jornal Brasileiro de Pneumologia* (01), *Arquivos Brasileiros de Endocrinologia e Metabologia* (ABE&M) (01) and *Arquivos de Neuropsiquiatria* (01).

Author/ year	Place of publication	Objectives	intervening factors of the sleep disorders
Woods NF, Mitchell ES (2010)	Journal Sleep/MEDLINE	Describe the difficulty of women for sleeping, the ease of awakening at night and early in the morning during the transition of the menopausal to the early post-menopause and its relation to the age, symptoms, factors related to stress and factors related to the health.	Hormonal levels, mood changes, anxiety, hot flashes, pain in joints and in back, stress, history of sexual abuse, performance of little physical activity.
Oliveira BHD, Yassuda MS, Cupertino APFB, Neri AL (2010)	Ciência e Saúde Coletiva /LILACS	Observe the relationship between sleep changes associated with aging, symptoms of insomnia, symptoms of sleep apnea and symptoms of parasomnia with socioeconomic variables and self-perceived health.	Socioeconomic characteristics such as age, gender, schooling and perceived general health.
Junqueira P, Bellucci S, Rossini S, Reimão R (2008)	Arquivo Neuropsiquiatria / LILACS	Assess the sleep; verify symptoms of anxiety and depression and associations with characteristics of the sleep of women with HIV / AIDS.	Symptoms of anxiety and depression. In HIV positive women, the impairment of sleep was associated with anxiety, and, in AIDS patients, the sleep was associated with depression.
Ohida T, Kaneita Y, Osaki Y, Harano S, Tanihata T, Takemura S et al (2007)	Journal Sleep/MEDLINE	Investigate the effects of passive smoking on sleep disorders during pregnancy.	Smoking
Baker FC, Kahan TL; Trinder J, Colrain IM (2007)	Journal Sleep/MEDLINE	Investigate the quality of sleep and its composition in women with severe premenstrual syndrome, when compared to the control group.	Severe premenstrual syndrome and premenstrual dysphoric disorder
Chellappa SL, Araújo JF (2006)	Revista de Psiquiatria Clínica /LILACS	Detect the prevalence of nightmares in patients with depressive disorder and observe its relationship with age, gender, disease duration, severity of the depressive clinical picture and suicidal ideation.	Depressive disorders.
Soares CN (2006)	Revista Psiquiatria Clínica/ LILACS	Examine the clinical and hormonal factors that contribute to the occurrence of insomnia during the peri and postmenopausal.	Hormonal factors, presence of nocturnal hot flashes and depressive symptoms.
Chellappa SL, Araújo JF (2006)	Revista de Psiquiatria Clínica /LILACS	Assess the complaints of sleep disorders in outpatient patients with depressive disorder in a general hospital.	More severe depression.
Shimoda GT, Silva IA (2010)	Revista Brasileira de Enfermagem/LILACS	Identify the health needs of women in the breastfeeding process.	Breastfeeding process.
Zaros MC, Ceolim MF (2008)	Revista Latino Americana de Enfermagem//LILACS	Compare the features of the sleep / wake cycle of women submitted to elective gynecological surgery with at least one day of hospitalization, between the pre-and postoperative steps.	Hospitalization process and surgical stress.
Knorst MM, Souza FJFB, Martinez D (2008)	Jornal Brasileiro de Pneumologia/LILACS	Study the effects of gender and obesity and identify factors related to excessive daytime sleepiness in patients with syndrome of obstructive sleep apnea/hypopnea.	Increased age and obesity.
Furlani R, Ceolim MF (2006)	Revista Latino Americana de Enfermagem/LILACS	Describe the usual quality of sleep of women with breast and gynecological cancer and compare it to the quality of sleep of them during hospitalization.	Cancer, disease symptoms, treatment, emotional factors and hospitalization process.
Daltro CHC, Fontes FHO, Santos-Jesus R, Gregorio PB, Araújo LMB (2006)	Arquivos Brasileiros de Endocrinologia e Metabologia/LILACS	Assess the frequency and association of the syndrome of obstructive sleep apnea/hypopnea with the obesity level, gender and age in outpatient patients referred to a sleep laboratory.	Obesity and aging.
Arcanjo Z, Alves VM, Palmeira ILT, Lopes MVO (2006)	Revista de Enfermagem UERJ/LILACS	Analyze the responses of pregnant women, who comprise the class "sleep and rest" of the domain "activity and rest" of the taxonomy from the North American Nursing Diagnosis Association.	Hormonal, metabolic and inherent factors to the pregnancy.

Figure 1. Distribution of the articles according to the Triggering Aspects of Sleep Disorders in Women, 2012.

With regard to the year of publication, there was predominance in 2006 (43%), followed by 2010 (21.4%) and 2008 (21.4%).

Some researchers have addressed the hormonal oscillations influencing the sleep pattern in women, considering different times

of life (premenstrual period, pregnancy and menopausal stage).⁴⁻⁷ In some studies, the aging was also cited as one of the intervening factors.⁸⁻¹⁰

The presence of clinical pictures of depression and anxiety were considered

important predisposing factors to the occurrence of nightmares and insomnia, by various authors.^{4,7,11-2} Moreover, some researchers have associated them with the diagnosis of certain pathologies, such as: cancer and HIV / AIDS.¹³⁻⁵

Regarding the lifestyles, smoking and performance of little physical activity were mentioned as important factors for the onset of episodes of sleep disorders.^{7,16} For some scholars, obesity is also included in this group of risk factors.⁹⁻¹⁰

Furthermore, the hospitalization process,¹⁴⁻⁵ the symptomatology, the treatment of disease¹⁴ and, even, the breastfeeding process were emphasized as contributors to possible sleep disturbances in women.¹⁷

With regard to the influence of the menstrual cycle and changes in the sleep architecture, it is not yet known for sure how they are linked. Nonetheless, it is known that insomnia associated with menstruation may occur due to a decrease in the levels of endogenous progesterone or a greater sensitivity to the endogenous hormonal oscillations, even so, these hypotheses require further study.¹⁸

Authors claim that the hormonal changes, in body temperature, in mood and emotional state (anxiety and irritability) during the menstrual cycle, besides the presence of dysmenorrhea have effects on sleep quality.¹⁸ The variability in expression of symptoms can drive the differences of the effects on the sleep in women.⁵

In pregnancy, hormonal and metabolic changings and the factors inherent to this phase as fetal movements, back pain, increased abdominal size, that hinders the positioning in bed, and increased urinary frequency, that induces the need to go constantly to the bathroom, can affect the sleep of women.⁶

Already, during breastfeeding, the woman is faced with the dilemma between having adequate sleep and rest and exclusively breastfeed her child. In this sense, the sleep pattern of the breastfeeding woman, for often, is linked to the behavior of suckling and the sleep / wake cycle of the child.¹⁷ The pregnancy-puerperal cycle involves several changing in the lives of women, thus, it is a determining factor for the alterations that occur in their sleep pattern..¹⁹

In the menopause period, the fluctuating in levels of estrogen and progesterone, the psychosocial and clinical aspects (hot flashes or nocturnal sweats, joints and back pains)

and a history of childhood sexual abuse may enhance the possibility of sleep disorders.^{4,7}

Regarding the depressive clinical picture in women, it is known that the serotonin and the melatonin are the main secretory products of the pineal gland and are important regulators of the sleep / wake cycle. The connection between sleep, melatonin and serotonin is embedded in the fact that serotonin is a precursor to melatonin and may be an indicator of depression.²⁰⁻¹

Considering the age, certain factors contribute to the sleep problems in older women, namely: pain or physical discomfort, environmental factors, emotional discomforts, use of medicinal drugs that relax the pharyngeal muscles, changing in anatomy of the respiratory system and changes in the sleep pattern. In this latter category, it should be included the complaints related to the time spent in bed without sleeping, difficulty for restarting the sleep, shorter nocturnal sleep, increased sleep latency and awakening in the morning earlier than desired.^{8, 22-3}

Obesity also presents itself as one of the main factors for the onset of sleep disorder, particularly, for the syndrome of apnea/hypopnea, given that this is characterized by the repeated clinical picture of airway obstruction during the sleep. In addition, the reduced level of progesterone in women after menopause is related to increasing this sleep disorder. However, it is not known for sure the reason of the protective action of this hormone under the airways collapsibility.⁹⁻¹⁰

Mentioning the smoking, it is known that nicotine stimulates the central nervous system leading the individual to wake up and causing, hence, sleep latency and reduction in its duration.²⁴ In passive smoking, we still cannot state whether the serum levels of nicotine are sufficiently capable of provoking sleep disorders.¹⁰

Other lifestyles also play an important role for the emergence of sleep disorders, namely: sedentarism, since it can lead the women to obesity and develop some types of chronic diseases; overload of activities, that entails, constantly, in stress and some emotional problems; alcohol consumption, by the fact of altering the activity of many neurotransmitters involved in the regulation of the sleep, such as serotonin, noradrenaline, glutamate and GABA.²⁵⁻⁶ In women, the alcohol is more quickly metabolized than in men, causing increased sleepiness and disturbances in the sleep patterns due to the increase of interruptions of the sleep and, consequently, its shorter duration.²⁷

With regard to the chronic diseases (arterial hypertension or other cardiovascular diseases, chronic respiratory pathologies, cancer, infection by HIV / AIDS, diabetes mellitus, chronic renal failure, epilepsy), the sleep pattern, commonly, presents itself changed, whether by the care itself related to treatment, or by, in some cases, the increase of the Body Mass Index (BMI), a fact that can predispose a patient to the Syndrome apnea/hypopnea, or by, still, by emotional and behavioral involved problems.^{13,28}

Women suffering from oncological disease commonly show pain, fatigue, psychological changes, and they are subjected to aggressive treatments that, often, cause side effects and, constantly, need to be admitted, for a certain period, to referential hospital services for treatment. So, they are at high risk of developing insomnia and disorders in the sleep/wake cycle.¹⁴

Treatment with chemotherapy and radiotherapy were considered as factors that contribute to the onset of sleep disturbances in patients with cancer.²⁹ Since, the chemotherapy treatment often involves significant side effects of short and long-term, including symptoms of fatigue, sleep disorders and depression.²¹ Hormone therapy in cancer patients has also been indicated as an influencing factor in the difficulties to sleep.³⁰

In turn, the sleep of hospitalized patients is likely to be frequently interrupted because of the treatment schedules, hospital routines and ward mates, who individually and collectively contribute to a less favorable environment for the sleep onset of patients. Other factors that influence sleep/wake cycles in the hospital environment include the patient age, comfort, noise, environmental temperature and symptoms associated with the disease and its treatment.^{2,15}

CONCLUSION

The researched literature has pointed out as intervening factors of sleep disorders in the female population: hormonal oscillations, period of breastfeeding, aging, obesity, chronic diseases, depression and anxiety, hospitalization process and some types of treatment of pathologies. In this sense, it is clear the variety of factors that can interfere with sleep quality of women, whether they are from physiological, pathological or environmental nature.

This fact demonstrates the importance of health professionals watch closely these possible factors and meet the health needs of the female population. It is imperative that these professionals formulate strategies in an

attempt to sooth the intervening factors, whether through preventative measures for the onset of chronic diseases (arterial hypertension, diabetes mellitus, depression), or through guidance on the importance of adopting healthy lifestyle and measures of sleep hygiene, in the female population, especially, during some stages of its life (premenstrual, pregnancy, breastfeeding and menopausal stage).

It is important to watch carefully the emotional changes of women, given that these are quite present in this population group and, usually, involve sleep disorders.

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