

Aging and Sleep: Challenge to Nursing Practices

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Abstract

The aging is normal life process, everybody one day will pass for this step, but what anybody know is that it leads to changes in the quantity and quality of sleep. This process affects more than half of adults, over 65 years old in the United States of America. These changes affect the sleep pattern, the psychological function, immune system, performance, behavioral response, humor and ability to adaptation. This paper was a scholarly review to evaluate the Health Assessment and Physical Examination Health Promotion class during the learned process of the author, who was an international student in North America. This paper aims to explain sleep patterns, discuss the relationship and differences between sleep disorders and sleep deprivation. In addition, reflections were done around the topic, that introduced some strategies to manage sleep will be discusses, as well as the nurse's role, once this profession is been an important device to development and to improve quality in the American health system.

Keywords: Sleeps, aging, sleep disorders, sleep deprivation, health promotion, and nursing.

1. Introduction

In Mohr (2009), sleep has been defined a physiologic complex state where people stay quiet, with their eyes closed and responses to environmental stimuli decreases. However, the brain remains active, because the brain has various functions such as the regulation of blood pressure, respiration and changes in heart rate. The sleep's cycle is characterized by two primary state called: non-rapid eye movement sleep (NREM) and rapid eye movement sleep (REM). According to Varcarolis and Halter (2010), two factors are responsible to regulate the need of physiological sleep: the sleep architecture (homeostatic process) and the circadian rhythm. In the adults, the sleeping stage last about 90-100 minutes per every cycle. This repeats four or five times, and alters between deep sleep (20% of sleep time), light sleep (50%) and dreaming (30%).

On the other hand, the term aging means the post-maturation process responsible for the decline of homeostasis and increased vulnerability of the body. According to Moraes et al. (2014), the understanding of sleep alterations related to aging is important to interpret clinical sleep conditions as normal or pathological. For this reason, this paper proposed to explain the relationship between sleep disorders, sleep deprivation and aging in middle-adults (30 years) and older adults. How nurses can work with this prevalent problem in the United States of American will be discussed. In addition, how to implement actions of health promotion for all people in the spectrum individual, family and social about sleep.

2. Development

In Mohr (2009), the patterns of sleep in middle-adults, typically they report sleeping around 7.5 hours per night during weekdays and 8.5 hours per night during weekends. While for older adults, they experience an advanced circadian phase – earlier bedtime and early morning awakenings. For the National Sleep Foundation (2014) sleep is a basic human need that demands seven to nine hours of sleep per night. However, National Sleep Foundation (2014) found on its studies that an average women between 30 to 60 years old sleep only six hours during the workdays.

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In addition, another study from National Sleep Foundation (2014) related that women are more likely than men to have difficulty falling and staying asleep, because they have biological conditions, like the menstrual cycle, pregnancy and menopause that affect how well a woman sleeps.

About the sleep's cycle, Mohr (2009) show us that NREM sleep includes four stages (I to IV), which each one has characteristic patterns of brain activity; for example the stage III and IV have slow-frequency brain, and the people becomes more difficult of wake up, because of this it is namely slow wave sleep. On the other side, the stage I is a step that sleep begin and the person is roused most easily. The NEREM corresponds the first half of the night. The second half of the night the REM occurs. According to Morh (2009), REM sleep is associated with the vivid dreams and a big electrical brain activity. It occurs after a complete cycle of NREM sleep and last approaches two hours.

According to Varcarolis and Halter (2010), the homeostasis is the results of coordinated physiologic process, which induces a need to sleep. The more time people stay up, activities such as alert, sleepiness, proportionally increase too. Once sleep begins, the homeostasis permits that sleep debit is replenished. It happens each cycle after wakefulness's period. According to Geib, Neto, Wainberg and Nunes (2008), the homeostasis or intrinsic sleep architecture suffers modifications with aging such as: decreases duration stages III and IV (recognized component replenished sleep) which may cause chronic sleep deprivation; awakening threshold decrease due noise (more pronounced in women). Also, increased the latency period for the sleep onset (> 30 min in approximately 32% of women and 15% of men); increased number of transitions from one stage to another and wakefulness; increased respiratory problems during sleep; increased nocturnal myoclonic activity.

On the other hand, the circadian rhythm defined from Varcarolis and Halter (2010), is regulated by biologic clock and activities that balances the daily patterns of sleep. Approximately, the circadian rhythm occurs during 24 hours, as with the cycle sleep-wake. This rhythm is controlled by the system central nervous and is influenced by factors environmental (light, temperature) and social (health sleep). Also according to Geib et al. (2008), the normal aging causes a general loss in circadian clock, for example: increased sleep fragmentation, sleep stages change with advance 1 hour early each day (tendency to bed early and get up early) and increased daytime fatigue.

3. Sleep Disorders and Sleep Deprivation

Defined from Goel, Hengy, Durmer and Dinges (2009), sleep deprivation is recognized when the sleep is not enough to support adequate alertness. Normally, it is caused for increased of the sleep time or fragmentation of sleep by brief arousals. In addition, the authors show us that prevalence of insufficient sleep in adults has been estimated at 20% and the effects on cognitive processing are increased the risk of human-error-related accidents and poses risks to safe operation in all modes of transportation and to performance in other safety-sensitive activities.

Cribbet et al, (2014) add that sleep privation has been found to introduce an increase on circulating levels of inflammatory markers, because sleep-wake cycle is an important factor to development of the immune system and the changes via too. Edelman, Kudzma and Mandle (2014), show us that a person with difficulties with sleep may be tense and irritable, unable to tolerate stress and incapable of making health-promoting relationships. Thus, Osborn et al. (2010), add that appetite patterns can change, elimination become difficult and activity intolerance will occur more usual.

On the other hand, in accordance with Mohr (2009), sleep disorders are estimated that 50 to 70 million people in the United States of American have same type of sleep disorders. American Academy of Sleep Medicine (2001) defines sleep disorders as change sleep patterns caused for a medical pathology, which can interfere on normal physical, mental social functioning. In addition, it has three classifications: dyssomnias, parasomnias and sleep disorders associated with mental, neurologic or other medical disorder.

According to Swanson et al. (2011), the spectrum of sleep disorders may impact professional outcomes include insomnia, obstructive sleep apnea a shift work disorder? It can reduce productivity and absenteeism; these are the most widely reported work performance impairments. Thus, Cribbet et al. (2014), explain inadequate sleep is associated with adverse health consequences as likely susceptibility to the common cold, metabolic syndrome and type two diabetes. Another study, Stein and Pu (2012), found the sleep disorders can has impact on cardiac autonomic

control (arrhythmogenesis), which led to morbidity and mortality, among people who has pre-existing heart disease and/or sleep disorders breathing.

4. Health Promotion on Sleep

The results of this investigation have implications to understanding sleep mechanisms. It affects health in older adults and can introduce serious challenge to adapt, likely reduce the growth or risk to development sleep problems. The consequences of sleep conditions take every key indicator of public health: mortality, morbidity, performance, accidents and injuries, functioning and quality of life, family well-being, and health care utilization, it has been one priority of Health People 2020. As result of that more emphasizes in adequate assessment and intervention relative to sleep problems for all clients and actions of sleep promoting are been thought.

According to Edelman, Kudzma and Mandle (2014), health promotion is a concept to keep body healthy. It is viewed as initiatives, which seek to improve health, often through behavior change, and it continues to grow in popularity. To teach is the most important assignment for health professionals, who helps their clients to do something to accept and to implement changes. In addition, it considers a new way life without medicine to improve healthy factors, for example nutrition, exercise, rest and reduce of stress.

Strategies used in health promotion of sleep are heterogeneous and include various approaches ranging from relaxation. The process of aging sleep must be measured and be part of assessment in the health visits. Client's individual information must include data suggestive, and information of observers (family, care providers). The evaluation must be wide, because some complaints can be associated with others health disorders. The client must receive an accompaniment daily as recommended by Happonik and McCall (1999), which made a guide to evaluate sleep of elderly.

In addition, Edelman, Kudzma and Mandle (2014) add objective methods to evaluate sleep; these are to ask for sleep quality (individual's perception of sleep adequacy, performance level and physical and psychological state on awakening). Another question is about sleep quantity, which includes focus on the hours slept each day; sleep's periods and perceived effectiveness of method used to promote rest is assessed. Thus, the health promotion can be done without medicines in many cases, through complementary theories, which help to improve the quality and quantity of sleep.

In Irish et al. (2014), sleep hygiene is the most important recommendation to sleep health promotion. Which is defined as a set of behavioral and environmental recommendations and was originally developed for use in the treatment of sleep disorders and causes of sleep deprivations. The Irish's findings are to the general population, it includes individuals, families and communities. The findings of sleep hygiene recommendations including avoid caffeine, nicotine, alcohol; exercise regularly; manage stress; reduce bedroom noise; sleep timing regularly and avoid daytimes naps.

Among these theories, Irwin (2014) uses a recent movement meditation called Tai Chi. Tai Chi as compared with stretching exercise, on sleep-quality outcomes and it can induce significant improvements in sleep quality. According to Irish et al. (2014), to teach client to do a sleep hygiene such as take a shower before sleep, this facilitates the relation and get in sleep; to practice regular exercises is considers a sleep hygiene recommendation.

Family patterns of sleep may not be readily apparent. For that, nurses need to ask habits and routines in the assessment. According to Mohr (2009), the nurse may be involved in teaching families, such as meditation, guided imagery and progressive muscle relaxation or controlled breathing exercises to have better sleep period. In Irish et al. (2014), in small groups of people, families, who participated in an eight-week mindfulness meditation course which resulted in post-course improvements in self-reported sleep. Another recommendation of sleep hygiene in promoting health, by Irish et al. (2014), for families is the sleep timing regularity, in the others words, it encourage regular bed and/or wake-times.

According to Edelman, Kudzma and Mandle (2014), sleep problems are presents in communities. These problems are not resolved, but efforts are need to minimize and control as well. For example, cities as New York, which never sleeps, it has many stores, traffic flow and noise during the day and the night. It produces unpleasant disturbances of sleep and contributes to development to sleep deprivation and decrease of health quality. For that, defined from Irish et al. (2014) sleep hygiene is a set of behavioral and environmental recommendations intended to promote healthy sleep.

During sleep hygiene education, communities learn about healthy sleep habits and are encouraged to follow a set of recommendations to improve their sleep, for example avoid caffeine, exercise regularly, eliminate noise from the sleeping environment, and maintain a regular sleep schedule.

5. Nursing practice and sleep

Sleep problems are a largely dealt with in primary care in the United States of American. According to Morton (2012), more than 18 million adults, for example have obstructive sleep apnea. Sleep loss from untreated sleep disorders can adversely affect clients' health and well-being. Learning about sleep disorders, will enable effectively care for clients experiencing this common issue. Nurse's understanding of the condition, its diagnosis and treatment may help clients to manage it while in the lifespan. This would include an explanation and demonstration of how to relief the causes of insomnia; to become better sleep time, using all alternatives to do that.

Nurses in the community may become involved in to detect sleep problems during health schedules, and to pay attention in client mention unusual sleepiness in themselves or their partners. Nurses should include sleep assessment and discuss sleep-promoting interventions in every possible encounter with clients. To help in the increase of national data about patterns of sleep at check-up appointments or during lifestyle discussions. Excessive daytime sleepiness with associated relationship problems or reduced motivation will almost certainly affect the way people act and approach other factors in their lives and nurses need to be sensitive to this, conform Malcon (2005).

The change of sleep pattern has occurred in developed countries and development corresponds at increases of need for promotion and provision of care for the elderly. In this context, health professionals have a challenge of managing both physiological changes of aging, as well as chronic diseases and conditions of sleep, do not to know about that implies in inefficiency to update diagnosis, health promotion actions and improve the health quality of client's lifespan.

6. Conclusion

In conclusion, we found many researches and authors that given us a better explication about how is the connection between aging and sleep. In addition, we can highlight the nurse role on practice, such as to teach people to improve sleep conditions. They certainly can give recommendations that would benefit the implementation of changes in sleep patterns as sleep hygiene could serve as a first-line intervention. This paper was especially important, because it did a dissemination and accessibility of information.

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