Sleep And Aging Problems In The Elderly

This health promotion paper describes the changes in sleep patterns when people age. The population of interest is the elderly people. This condition is preferred because while several different sleep changes in life time are common, including changes in time spent on different sleep stages and changes in circadian rhythm, sleep disturbances are also common in old age. Sleep usually occurs in several stages. The sleep cycle include light and deep sleep without dreams and some periods of active dreams (REM sleep). The sleep cycle is repeated several times during the night. Sleep patterns tend to change with aging and the elderly find it harder to fall asleep as they wake up more often at night and early in the morning. The transition between sleep and waking up is often abrupt, as a result the older people have lighter sleep than when they were younger. Older people wake up more often because they have other health conditions that affect their sleep. This includes the need to get up and urinate (nocturia), anxiety, and discomfort or pain from long-term (chronic) illness. This paper will review literature on sleep and aging, and will also provide a teaching plan that can be used by nurses to teach adults with sleep disorders. It ends with an indication of how the information obtained will be used in future professional practices.

Background of the Issue

Sleep-related changes occur during the normal aging process. Older people generally sleep less than younger adults (Adler & Thorpy, 2015). This may be due to a combination of sleep-related changes, sleep-related behaviors, and a high rate of sleep disturbances. Older adults have a lower percentage of sleep time in both slow-moving (deep sleep) and REM sleep compared to younger adults, and sleep time decreases gradually (Alessi, Martin, Fiorentino, Fung et al, 2016). The number of total waking hours after sleep also increases with age, however, older adults do not have more difficulty returning to sleep after waking up compared to younger adults (Ohayon et al. 2014). Because older people spend most of their time sleeping during the day melatonin depletion decreases, and the magnitude of circadian rhythm decreases in adults. Recent studies show that the number of hyperactivity sleep disorders actually decreases with age (Grandner et al. 2012), but non-sleep sleep changes may increase the sensitivity of sleep disorders such as insomnia (Miner and Kryger 2017).

Literature Review

Definition of terms

Sleep can be defined as a normal state in which consciousness changes while the body is resting. It is characterized by a decreased responsiveness to the environment, and a person can be stimulated by external stimuli (Allen, Chen, Garcia-Borreguero, Polo et al, 2014). Sleep is usually characterized by a decrease in spontaneous body movements, temporary blindness, a decrease in response to external stimuli, loss of consciousness, a decrease in auditory capacity, an increase in the rate of anabolic (synthesis of cellular structures), a decrease in the rate of catabolic activity (Ayalon et al, 2016).

The purpose of sleep is;

- It is a time of recovery and preparation for the next awakening.
- During NREM stage 4, the body releases human growth hormone to repair and regenerate special cells such as epithelial cells and brain cells (Banks, Nolan & Peirson, 2016).
- Protein synthesis and cell division for tissue regeneration occurs during rest and sleep.
- REM sleep appears to be important for cognitive recovery

The benefits of sleep often go unnoticed until a person experiences problems due to lack of sleep. Losing REM sleep makes me confused. When long-term sleep loss occurs, various bodily functions (such as motor function, memory, and immune function) change (Fung, Martin, Josephson, Fiorentino & Dzierzewski, 2016). Sleep Disorders Sleep disturbances, including breathing and insomnia disorders are common among older people and cause problems with daily functioning and maintaining independence (Fung et al, 2016). Studies have shown that when sleep disorders are treated, they can improve the health condition of older patients, even if the disorders are related to health and psychological conditions. The section below describes the common disorders amongst the elderly.

Respiratory sleep disturbances

Disrupted sleep apnea (SDB) occurs when a person frequently stops breathing or decreases shortness of breath during sleep. Apnea occurs when the airways are completely stopped for at least 10 seconds, hypopnea occurs when airflow decreases for at least 10 seconds and oxygen depletion decreases (Gagnon, Postuma & Montplaisir, 2016). In obstructive sleep apnea (OSA), the upper airways are narrowed and breathing is compressed, whereas in central sleep apnea, the ability to breathe is lost. Sleep apnea is most commonly detected when the average number of breathing disorders or hyporespiratory symptoms (AHI) is 15 or more, or 5 or more with associated symptoms such as excessive daytime sleepiness (Kapur et al. 2017).

Untreated sleep apnea has a number of negative health effects, including increased mortality, high blood pressure, heart failure, cardiac arrhythmia, heart events, mental retardation, insulin resistance and diabetes, and surgical complications (Aronsohn et al. 2010). The link between sleep apnea and early epilepsy is much stronger in older people. People with untreated sleep apnea complain of daytime sleepiness that affects safety in certain situations, such as driving. In many of the complications listed above, sleep apnea treatment can reduce the risk of developing the disease, improve management, and interfere with the health of the comorbidities (Park et al. 2011).

Inability to sleep / insomnia

Insomnia is defined is a sleeping disorder that can make it hard to fall asleep, maintaining sleep or waking up too early. Sleep disturbances must occur at least 3 days a week for at least 3 months to diagnose insomnia. The incidence of insomnia in older adults is 5 to 8% (Gooneratne and Vitiello 2014), but sleep complaints that can respond to treatment for insomnia are 30 to 60% (McCurry et al. 2017). Insomnia in the elderly often occurs in the context of chronic pain and other age-related medical and psychological disorders, including disorders of the nervous system. However, insomnia often represents an unresolved personal clinical setting in which joint management is best performed. Older people tend to increase their sleep time after retirement, which can contribute to the onset and maintenance of insomnia when bedtime is

longer than the time required for a person's sleep (McCurry et al. 2017). Some older people may self-medicate alcohol to improve sleep or relieve pain, but it can also increase anxiety and cause complaints about insomnia.

The primary treatment for chronic insomnia is not medication, however behavioral psychotherapy is the recommended treatment for the elderly (McCurry et al. 2017). Behavioral therapy often include sleep prevention, sleep hygiene, and other behavioral and cognitive skills. Sleep restriction reduces the amount of time a patient goes to bed during bedtime, increasing sleep drive, reducing sleep waiting time, and increasing sleep retention. The advantages of sleep prevention is that quality of sleep gradually increases as sleep progresses. Sleep deprivation is a suitable option for older people who are at high risk for daytime sleep effects, such as those at high risk of falls (McCurry et al. 2017). Behavioral strategies also aim to promote activities that can restrict day time sleep amongst the elderly so as to improve quality of sleep at night.

Circadian sleep-wake disorder

Cyclic Rhythm Sleep-Awakening Disorder (CRSWD) occurs when sleep time is disrupted due to circadian rhythm changes or differences between individual rhythms and the required sleep schedule (Banks, 2016). The circadian rhythm becomes weaker, responds less to external stimuli, and tends to move at an early age. These changes are common, this pattern can lead to adverse health outcomes similar to those experienced by young people with chronic rhythms and inadequate sleep patterns, including mental retardation (Marquie et al. 2015). In some cases, the discomfort can be so severe that the limit of actual sleep disturbances can be reached. It includes difficulty falling asleep, waking up during the sleep cycle, or waking up too early and being unable to fall asleep again. Treatment options include bright phototherapy, medication, and behavioral therapy. Treatment choices depend on the type of disorder and how much it affects the quality of life.

Sleep Disorder is caused by persistent or intermittent interruptions in sleep patterns. In other words, there will be a discrepancy between the internal clock and the external environment which affect the length and duration of sleep. This circadian inconsistency causes problems with functioning in social activities. For the elderly, situations that can cause circadian rhythm sleep disturbance include brain damage caused by medical conditions such as stroke, dementia, and intellectual disability, certain medications and poor sleep hygiene (lack of practices, habits and other factors that improve sleep quality (Morgenthaler et al. 2017).

For adults who not have a busy schedule, it may be easier to adjust their activities so that they keep pace with changes during the sleep cycle. As a result, the impact of abnormal sleep time may decrease in older adults compared to younger adults with more work and other daytime needs (Morgenthaler, 2017). Diagnosis of circadian rhythm disturbances should begin by looking at other conditions that may affect the wake-up cycle or emergence such as CRSWD. These include depression, temporary health changes, and sedatives (Kim et al. 2013).

Advanced Sleep-Wake Phase Disorder (ASWPD) is the most common circadian-sleep disorder in the elderly, and occurs when patients are weaned and wake up early at night and are unable to remedy the problem on their own. The most common occurrence in young adults and severe sleep apnea delays (DSWPD) can also occur in older adults. DSWPD occurs when people do

not sleep well into the night and have difficulty waking up in the morning at acceptable times in the community (Morgenthaler, 2017). Like ASWPD, people are often unable to adjust their bedtime on their own. A sleep diary, completed over a period of 1-2 weeks, can be used to clarify sleep patterns and can be used in conjunction with actigraphy to support conclusions.

Sleep related movement disorder

Sleep-related movement problems are sleep disturbances and are usually simple and thoughtful. Restless Legs Syndrome / Willis Eckbellum (RLS / WED) is an undeniable desire to move the leg, accompanied by a tense, burning, itchy, or pin-and-needle that releases when you move the leg. . It usually occurs in the legs, but can also occur in the chest or upper arms. It is more difficult to rest, increases in the evening, decreases sleep and contributes to daytime sleepiness (Bloom et al. 2009). RLS may be idiopathic or may be secondary to other medical conditions, including iron deficiency, peripheral neuropathy, and kidney disease. About 10% of the population reports symptoms of RLS, and the increase is increasing. Throughout life, RLS is more common in women than in men (Bloom et al. 2009). Diagnosis is based on patient reporting, but medical history and testing, especially to detect serum ferritin levels, is necessary to determine the underlying or underlying condition and prevent seizures, neuropathy, and other conditions such as RLS.

After initial treatment (Winkelman et al. 2016), the intervention involves the management of the disease and appropriate discontinuation of drugs that increase RLS, including SSRIs, TCAs, lithium and antipsychotic. Thereafter, if the ferritin level is 50 mcg / L, RLS is treated with dopamine agonists such as pramipexole or i -lofinirol (Allen et al. 2014). Caution is advised as this drug can cause drowsiness and compulsive behavior. Repeated exacerbations of RLS symptoms following treatment may be possible with these drugs and should be evaluated at subsequent visits. Alpha-2-delta calcium channel ligands, such as gabapentin, gabapentin enacarbyl, and pregabalin, are an effective treatment for RLS, with data showing an increase or decrease in pregabalin (Allen et al. 2014).

Second-line treatment of antidepressants includes opioids and benzopines that should be used with caution in the elderly. Elevated BMI, sedentary lifestyles, caffeine intake, and tobacco use may require moderate exercise and a reduction in tobacco and caffeine as associated with RLS (Bloom et al. 2009). Most people with RLS also show intermittent movements (PLMS) during sleep, which are repetitive, movements of the toes and big toes, sometimes knees and buttocks. The movement lasts a few seconds and usually occurs 1-2 times per minute in the first half of the night. Occasional movement during sleep increases with age. This can lead to severe sleep disturbances. Periodic Limb Movement Disorder (PLMD) is diagnosed as PSG and is characterized by at least 15 movements per hour of complete sleep and sleep disturbance or daytime fatigue. Patients can benefit from dopamine agonists, although there is little evidence to support their effectiveness, and it is often the best way to identify and treat related sleep disorders, including RLS and OSA. PLMS is common in people taking antidepressants, and drug use testing can also be helpful (Bloom et al. 2009).

Minor sleep disturbances

Parasomnias is a stage of sleep disorders characterized by abnormal experiences that occur during sleep or sleep-shifting awakening. People can experience abnormal movements,

behavior, emotions, ideas, dreams, or physical awakening (Rabadi, Mayanna and Vincent, 2013). Rapid eye movement (REM) sleep disorder is a very common sleep disorder in adults and is characterized by severe motor behaviors associated with nightmares. Rapid eye movement disorder occurs when there is a deficiency of normal muscle dystonia during REM sleep, and there is a high risk of injury to the patient and a friend. It is associated with neurological disorders, particularly Parkinson's disease, multisystem atrophy, and Lewy's mental illness (Rabadi et al. 2013). Since rapid eye movement disorder can predispose to other symptoms of neurodegenerative disease, careful neurological monitoring is required with a physician seeking information from the patient (Rabadi et al. 2013). Rapid eye movement disorder is more common in men than women, with an average age of onset of 60.9 years.