

TREATMENT OF SLEEP DISORDERS IN ELDERLY



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Introduction

- Normal ageing is associated with changes in sleep architecture and sleep duration. Older adults have shorter total sleep time, they spend a lower percentage of sleep time in slow wave sleep and in REM sleep, take a longer time to fall asleep and have more arousals during sleep compared with younger adults. The circadian rhythm shifts earlier with going to bed earlier in the evening and waking up earlier. They also spend more time napping during the day.
- It is important that sleep disorders are not mistaken for physiologic changes that occur due to ageing because untreated sleep disturbances are associated with worse late-life cognition, mental and physical disorders.
- The most common sleep disorders in elderly are insomnia and obstructive sleep apnoea (OSA). Other common disorders include restless legs syndrome (RLS), circadian rhythm sleep disorder and REM sleep behaviour disorder (RBD).

Insomnia

Insomnia disorder is defined as a complaint of sleep initiation, difficulty maintaining sleep or early morning awakenings, which causes significant functional impairment and occurs at least 3 times a week for at least 3 months (definition from Diagnostic and Statistical Manual for Mental Disorders DSM-5). Prevalence of insomnia is higher in older individuals than in younger adults, and is 12 to 20%, while prevalence of insomnia symptoms ranges from 30 to 48% in older individuals. It is associated with higher risk of cognitive impairment, depression, hypertension, heart disease, metabolic syndrome and more. The diagnosis of insomnia is a clinical one, made on thorough clinical history of the sleep problems and no further investigations are needed in most cases. Treatment can be divided into nonpharmacological and pharmacological. Nonpharmacological measures, including sleep hygiene education and cognitive behavioral therapy, should be the first line of treatment in all age groups, but particularly in elderly due to higher risk of adverse effects if treated with drugs. Most commonly prescribed drugs are benzodiazepines and nonbenzodiazepine receptor agonists. They are highly effective but prolonged use is associated with a wide range of side effects, which include tolerance, dependence, rebound insomnia, daytime sedation, motor incoordination, cognitive impairment, increased risk of falls in institutionalized older individual, and they are even associated with higher mortality rate (figure 1). Other drugs include antidepressants, melatonin receptor agonists and orexin receptor antagonists.

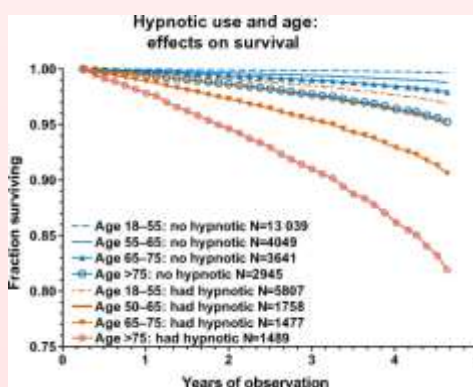


Figure 1 from Kripke, 2012.

Obstructive sleep apnoea

OSA is characterized by repeated episodes of complete (apnea) or partial (hypopnea) obstruction of the upper airway during sleep, and is associated with a reduction in blood oxygen saturation. Each event is usually terminated by a brief arousal from sleep causing sleep fragmentation and the main OSA symptom - daytime sleepiness. Estimated prevalence is 5 to 15 % in general population, and increases to 20 - 25 % in individuals older than 65 years. OSA patients have increased risk of coronary artery disease, stroke, hypertension and are prone to traffic accidents. The gold standard for OSA diagnosis is polysomnography. OSA is very effectively treated with continuous positive airway pressure (CPAP) device. CPAP not only improves sleep quality and daytime sleepiness but adequate long-term CPAP use improves cardiovascular outcomes. The main problem is CPAP adherence which decreases as age increases, and it is particularly poor in patients aged > 75 years (figure 2). Individualized treatment and close monitoring could possibly improve compliance.

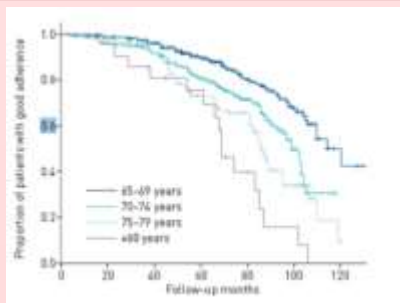


Figure 2 from Martinez-Garcia et al, 2019.

Conclusion

- Sleep disorders are very frequent in older individuals, especially insomnia and OSA. They are often unrecognised and if left untreated they are associated with increased risk of different physical and mental disorders.
- First line of therapy for insomnia should be cognitive behavioural therapy and hypnotics should be avoided due to side effects and higher mortality rate. CPAP therapy in OSA should be closely monitored and individualized to improve compliance.
- Adequate treatment of sleep disorders is of great importance for healthy ageing.

1. Kripke DF et al. Hypnotics' association with mortality or cancer: a matched cohort study. *BMJ Open* 2012;2: e000850.
2. Martinez-Garcia MA. Continuous positive airway pressure adherence declines with age in elderly obstructive sleep apnoea patients. *ERJ Open Res.* 2019 Feb; 5(1): 00178-2018.
3. Lavoie CJ et al. Sleep and aging. *Sleep Science and Practice* 2018; 2:3.