Opinion

The treatment of sleep problems in dementia

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ABSTRACT

Sleep difficulties in dementia create discomfort and may leave families unable to care for a loved one at home. Recent Cochrane studies discovered no therapies with established efficacy. Light treatment had no impact, and there was limited evidence that melatonin was useless when administered without knowledge of the patient's circadian cycle. The present paper updates this review by taking into account fresh studies on therapies for sleep disorders or anomalies of the sleep-wake cycle in community-dwelling adults with dementia.

Key Words: *Alzheimer's disease, Cerebrospinal fluid*

INTRODUCTION

Sleep disturbances are widespread in dementia, including issues such as trouble falling or staying asleep, fragmentation of sleep, wandering, and excessive daytime drowsiness. Sleep is an essential component of human well-being, and inadequate or poor-quality night time sleep can have a major influence on daily performance and quality of life. The aging population will result in a major increase in the number of people living with dementia globally in the future years, with around two-thirds of them living in the community. Caregivers have significant difficulties with interrupted sleep since their own sleep is frequently disrupted, thereby impacting their quality of life. Paid night time care might be too expensive for individuals who prefer to continue caring at home. If the primary caregiver lowers or ceases working, this has an impact.

Clinical and cost-effective approaches to improving interrupted sleep in dementia patients are required for the benefit of persons affected, their families, communities, societies, health and social care systems, and the global economy. Treating sleep disturbances may not only improve dementia patients' welfare, daytime functioning, and quality of life, but because they are known to promote amyloid deposition, therapy may halt the development. Recent Cochrane reviews showed no effective therapies for sleep disturbances, with light therapy and melatonin, in particular, failing to show benefit in studies. Other choices, however, include psychological and behavioral therapy, as well as pharmaceutical treatments. As a result, the demand for therapies that function and can be utilized long-term appears to be critical.

Many factors can contribute to insomnia, trouble falling or staying asleep, or sleeping at irregular times. The majority are secondary, although there are certain main sleep disorders, such as sleep apnea, that are not covered in this overview. Sleep difficulties in dementia can be caused by physical health concerns, pain or discomfort, drugs, anxiety, or depression, just as they are in those without dementia. Furthermore, the circadian cycle is frequently disrupted. Endogenous circadian rhythms play an important role in sleep regulation. External cues such as light, daytime activities, physical exercise, and meal times, aid in synchronizing the circadian sleep-wake pattern with the 24-hour day. Circadian rhythm abnormalities include both advanced (early sleep onset and offset) and delayed (late sleep onset and offset) (late sleep initiation and rise time).

Dementia-related neurodegenerative alterations, as well as amyloid and tau deposition, may have an impact on the structure and function of key brain networks. Changes in the Suprachiasmatic Nucleus (SCN) and pineal gland, as well as SCN-pineal gland functional disconnection, can also decrease melatonin generation and release. Melatonin release is controlled by a 24-hour circadian rhythm, which can be disrupted by insufficient cues (especially light) and decreased rest-activity amplitude. Sleep and circadian rhythm disturbances may potentially contribute to the decrease in A42 in the cerebrospinal fluid found in the preclinical stages of Alzheimer's disease, as well as an increase in cerebral amyloid load. Sleep disruptions may increase the neurodegenerative cascade due to lymphatic system dysfunction, which clears the brain of neurotoxic chemicals such as A42.

A trazodone population research in Spain looked at initial prescriptions between 2002 and 2011 in 11766 people aged 65 and up. This revealed that dementia (20.36%) and sleep problems (16.22%) were the most prevalent treatment indications, behind only depression (21.41%). Its usage grew fivefold between 2002 and 2011. The average daily dosage was 100 mg. From January 2002 to March 2013, a population-based study of older persons in Ontario, Canada, evaluated trends of trazodone and benzodiazepine dispensing to older individuals (66 years). While trazodone dispensing grew over time, benzodiazepine dispensing declined, particularly in patients with dementia, in both community and long-term care settings.

In one trial, donepezil 5 mg daily for 14 weeks was given to 16 persons with DLB to see if it may assist with sleep disruptions (as measured by actigraphy) and sleep symptoms like dream enactment. At the outset, eight patients developed sleep difficulties. The findings from this short study showed that donepezil therapy decreased sleep

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disruptions and nighttime activity/wakefulness.

An uncontrolled experiment used polysomnography at baseline and after 4 weeks to evaluate meantime 20 mg/day for a sleep in 12 individuals with Alzheimer's disease (aged 79 years). Total sleep time, sleep efficiency, and time in stage II sleep all increased significantly, whereas night-time waking, periodic limb movement, and time in stage I sleep decreased significantly. The results are equivocal because this was a tiny trial that was not controlled. Sleep difficulties in dementia have an impact on emotional and physical health, as well as worsening cognitive symptoms and lowering the quality of life for persons with dementia and their family members.

They also increase dementia expenses by admitting patients to care homes.

Effective interventions are required. However, the majority of recent investigations have been exploratory in nature, and the clear proof is missing. Because the etiology of sleep disruption is unknown, the most beneficial therapies tend to be multicomponent. Before evidence-based clinical practice recommendations on managing sleep problems in dementia can be made, more research with sufficiently powered trials of such therapies or medicines is required. In the interim, practitioners will rely on evidence gathered from other ailments' studies or their clinical experience.