

# Tackling Insomnia in Dementia: Review of Management in Primary Practice

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## Abstract

## Review Article

Insomnia is a common and complex symptom among patients with dementia, often worsening cognitive and behavioural issues, hence leading to an increase in caregiver burden. Management requires an evidence-based approach that considers both the patient's needs and the support for caregivers. This article reviews current strategies for treating insomnia in dementia, focusing on non-pharmacological interventions including sleep hygiene, behavioural therapies, and education. When these methods are inadequate, pharmacological options may be explored, balancing safety and side effects. Applying a patient-centred care plan can improve sleep, reduce symptoms, and enhance the quality of life for patients and their families.

**Keywords:** Insomnia, Dementia, Caregiver Burden, Non-pharmacological, Pharmacological, Sleep-wake cycle.

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## INTRODUCTION

Insomnia and sleep issues affect 60-70% of patients and are associated with poorer outcomes [1]. A lack of sufficient sleep exacerbates cognitive and behavioural symptoms and also increases stress on caregivers, resulting in a reduced quality of life for patients and their families [2]. General practitioners (GPs) often serve as the initial contact for dementia patients and are essential in treating insomnia with both medication and non-medication strategies.

### Pathophysiology of insomnia in Dementia

The sleep-wake cycle is controlled by the suprachiasmatic nucleus in the brain, which can become dysregulated in dementia due to neurodegenerative changes. Conditions such as Alzheimer's disease, vascular dementia, and Lewy body dementia disrupt circadian rhythms, leading to changes in sleep cycle and early morning awakenings [3]. Additionally, symptoms such as depression, pain, and environmental factors contribute to the insomnia observed in dementia patients [4].

## REVIEW

### Clinical presentation and diagnosis

Patients with dementia may display various symptoms of insomnia, such as difficulty falling asleep, frequent nighttime awakenings, and excessive sleepiness

during the day [5]. Diagnosis involves collecting a thorough patient and third-party history, maintaining a sleep diary, and utilising standardised tools such as the Pittsburgh Sleep Quality Index [6]. Additionally, it is essential to consider any underlying medical conditions that could be causing sleep problems, such as depression and infections.

### MANAGEMENT

Managing insomnia in dementia can be complicated, requiring an integrated bio-psycho-social approach. Interventions are usually categorised into non-pharmacological and pharmacological options. Furthermore, a comprehensive management plan is crucial, considering both the patient's needs and the caregiver's well-being. Typically, non-pharmacological options are preferred initially due to their lower risk profile; however, they can be combined with medications in some situations, based on the potential risks and benefits to the patient.

#### *Non-pharmacological management (Table 1)*

Sleep hygiene is the cornerstone of managing insomnia, whether it is associated with dementia or not. Patients and caregivers are educated in the establishment of bedtime routine, reduction of stimulants such as caffeine and nicotine and creating a comfortable sleeping environment. Measures such as maintaining regular sleep and wake times, reducing daytime naps,

and ensuring the bedroom is dark can help improve sleep quality. [7]

The sleep environment, a key component of sleep hygiene, plays a crucial role in managing conditions such as insomnia and dementia. Exposure to natural daylight helps regulate the circadian rhythm and promotes better sleep at night. Additionally, minimising noise and light before sleep can be beneficial. Nightlight levels can be further decreased with the use of blackout

curtains and motion-sensitive lighting. These environmental adjustments are low-risk and cost-effective, making them sustainable over the long term. [8]

Behavioural strategies, particularly Cognitive Behavioural Therapy for Insomnia (CBT-I), have demonstrated effectiveness in improving sleep outcomes among patients with dementia [9].

**Table 1: Non-pharmacological interventions**

| Non-Pharmacological Interventions | Examples                                                                                                                                                    |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sleep hygiene                     | sleep schedule, avoiding naps, reducing stimulants, reducing electronic device use 1 hour before bed, balanced diet, exercise and healthy sleep environment |
| Environmental changes             | Natural light, reducing noise, blackout curtains, white-noise machines, and motion-sensitive dim lighting                                                   |
| Behavioural therapy               | CBT-I and relaxation exercises.                                                                                                                             |

### Pharmacological Management (Table 2)

When non-pharmacological interventions fail, pharmacological treatments may be considered as an alternative. However, these should be used with caution due to the increased risk of side effects in elderly patients.

Melatonin has been used in the treatment of insomnia in dementia, in particular, to regulate circadian rhythms. Studies suggest melatonin is efficacious in improving sleep onset and quality by aligning circadian rhythms [10]. It is well tolerated and has a better safety profile compared to sedating medications.

Short-term use of hypnotic agents such as Zolpidem can be effective when used short-term; however, they should be used with caution, given their significant risk of falls and increased confusion/hallucinations [11].

When patients are having insomnia and co-existing dementia, the use of Mirtazapine can be effective [12]. Mirtazapine has anti-depressant and sedative properties, making it ideal when addressing both issues. However, their use can also increase the risk of falls due to sedative effects and can also cause weight gain.

**Table 2: Pharmacological interventions**

| Medication  | Indication                    | Precautions                                  |
|-------------|-------------------------------|----------------------------------------------|
| Melatonin   | Circadian rhythm disturbance. | Generally safe for long-term use.            |
| Zolpidem    | Severe insomnia (short-term). | Risk of confusion, falls and hallucinations. |
| Mirtazapine | Depression with insomnia.     | Sedation and weight gain.                    |

### Multidisciplinary Approach

Managing any complex case requires a multidisciplinary approach involving general practitioners, geriatricians, sleep specialists and occupational therapists. Part of this team should also include carers, as it is essential for them to be educated and provide ongoing support to the patient. Education should incorporate sleep hygiene techniques, provide respite, and offer counselling, which significantly reduces the stress associated with nighttime disturbances [13].

### CONCLUSIONS

Insomnia in dementia can be a complex symptom to manage, requiring a comprehensive bio-psycho-social approach. Family medicine physicians are well-equipped to handle this by integrating both non-pharmacological and pharmacological strategies. Additionally, collaboration with multidisciplinary teams

and providing support for caregivers are crucial for effective management, leading to better outcomes for patients and their caregivers.

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