# CURRENT THINKING ON... MILD COGNITIVE IMPAIRMENT AND DEMENTIA

Welcome to our CPD module series for community pharmacy technicians. Written in conjunction with the ***Pharmacy Magazine*** CPD series, it will mirror the magazine's programme throughout the year. The series has been designed for you to use as part of your continuing professional development. Reflection exercises have been included to help start you off in the CPD learning cycle.

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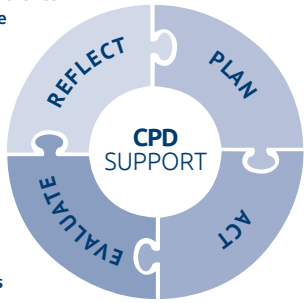
## MODULE NUMBER: 77

**AIM:** To help you understand the needs of individuals who are diagnosed with mild cognitive impairment which then leads to a formal diagnosis of dementia.

**OBJECTIVES:** After studying this module, pharmacy technicians will be able to:

- Describe the difference between cognitive impairment in normal ageing and that in dementia
- Identify the different types of dementia that are likely to be encountered
- Explain the treatment options available.




### Cognitive impairment

Cognitive function is not just about memory, but includes language, visuospatial and perceptual ability, thinking and problem-solving, and personality. Changes occur in our cognitive functioning when we age. Thinking and planning take longer and people may need to make lists to remember their daily activities. They may have trouble remembering the names of actors or a particular word. These are normal signs. It is only when these become sufficiently severe to interfere with a person's ability to complete their daily activities that there is cause for concern.

### Mild cognitive impairment due to Alzheimer's disease

There are two main forms of mild cognitive impairment due to Alzheimer's disease: amnestic and non-amnestic. People with amnestic mild cognitive impairment cannot learn or retain new information. This impairment of episodic memory is not normal and 50 per cent will go on to be diagnosed with Alzheimer's disease.

### Dementia

Dementia has been defined as "a syndrome consisting of progressive impairment in two or more areas of cognition, sufficient to interfere with work, social function or relationships".

In 2015, there were an estimated 856,700 people with dementia in the UK. Prevalence rates link the risk of dementia with increasing age, rising from one in 688 people under 65 years, to one in 14 people over 65 years, one in six over 80 years and one in three over 90 years.

Recent research suggests the proportion of people living with dementia has decreased by 20 per cent over the past two decades, linked mainly to a reduction in male smoking, leading healthier lives and a reduction of cardiovascular risks.

### General symptoms

Dementia is gradual in onset, often noticed at times of stress or change. Early symptoms include:

- **Memory loss,** especially for recent events
- **Difficulties with learning and/or retaining new information**
- **Being more repetitive** or misplacing objects such as car keys or spectacles
- **Having trouble with complex tasks** such as cooking, driving or dealing with finances
- **Reduced ability to reason and problem-solve**
- **Impairment of spatial and visuospatial awareness,** including bumping into objects, getting lost in a familiar place
- **Language problems,** including an inability to find the right word or difficulty following conversations
- **Behavioural changes,** including being more irritable, passive, withdrawn or suspicious.

There is no definitive marker for dementia. Diagnostic assessments include laboratory screening of blood indices and imaging techniques such as computed tomography (CT) scans to exclude space occupying lesions, and magnetic resonance imaging (MRI) and positron emission (PET) scanning to establish where brain loss is occurring and its severity.

Psychological scales assess disease severity, cognitive functioning, activities of daily living, and problem solving.

### Disease progression

Disease progression varies considerably, but broadly falls into four phases:

- **Early stage**

This is often misattributed to stress, bereavement or normal ageing. Signs and symptoms include mood changes; loss of short-term memory; confusion; poor judgement; unwillingness to make decisions; anxiety, agitation or distress over perceived changes, and an inability to manage everyday tasks.

- **Moderate stage**

At this stage, more support is needed for tasks of everyday living, including reminders to eat, wash, dress and use the lavatory. People are increasingly forgetful and may fail to recognise others. Distress, aggression and anger are common, perhaps due to frustration. Risks include wandering and getting lost, leaving taps running or the gas on, inappropriate behaviour, dressing incorrectly, loss of the day/night cycle and hallucinations.

- **Late stage**

Characteristics at this stage include an inability to recognise familiar objects, surroundings or people – although there can be some flashes of recognition. Increasing physical frailty means they may start to shuffle or

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## key facts

- 850,000 people in the UK live with dementia – a number that is projected to rise to over one million by 2025
- Some 62 per cent of people with dementia are female, probably due to life expectancy being higher in females
- Dementia prevalence is linked to age. One in 688 people under 65 have dementia but that rises to one in three in the over-90s
- Self care steps include maintaining physical and mental health by exercising and taking part in socially and mentally stimulating activities.

walk unsteadily, eventually becoming confined to bed or a chair. Difficulty eating and sometimes swallowing, weight loss, double incontinence and gradual loss of speech all occur in this late stage.

- **End of life stage**

This stage requires good palliative care services.

## Alzheimer's disease

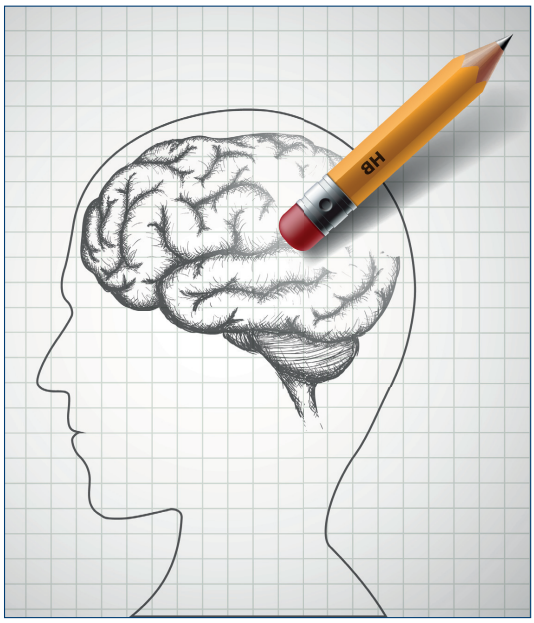
Diagnosis of Alzheimer's disease is by clinical and neuropsychological examination, and the presence of deficits in at least two areas of cognition, with progressive worsening of memory. Alzheimer's disease is most likely to be the sum of external factors, such as environmental triggers, and inherent host factors, resulting from genetic predisposition. The children of a person with an affected gene have a 50 per cent chance of inheriting the gene. It does not skip generations and men and women are equally affected.

Increasingly, evidence suggests that Alzheimer's disease is related to lifestyle choices. Other risk factors include head injuries, which can trigger neurodegeneration; epilepsy; herpes zoster and simplex viruses; alcohol; smoking; cardiovascular and cerebrovascular disease, and older maternal age.

## Vascular dementia

Vascular dementia (VaD) is usually sudden in onset and then follows a stepwise progression, which includes periods of stability followed by sudden decline. There is often nocturnal confusion, the presence of depression and patchy cognitive impairment.

VaD is potentially preventable with the use of antiplatelets, warfarin or novel anticoagulants and controlling underlying hypertension, cardiovascular disease and/or diabetes. Statins have a role in lipid regulation, which may contribute to the pathogenesis (development) of dementia, and so may have a role in reducing incidence of VaD.



## Dementia with Lewy bodies

Dementia with Lewy bodies (DLB) typically follows a progressive, fluctuating course and is delirium-like, with fluctuating periods of confusion and variations in attention and alertness. Visual hallucinations are common, as are Parkinsonian features such as rigidity, bradykinesia (slowness of movement) with repeated falls. People with DLB exhibit extreme sensitivity to antipsychotics, leading to a three-fold increase in mortality as they exacerbate both motor and cognitive disability, so these medications should be avoided completely if possible.

## BPSD

Behaviour and psychological symptoms of dementia (BPSD) are in response to disease progression and associated with the death of brain cells, as well as the frustration at not being able to communicate or remember effectively.

BPSD occurs in 95 per cent of people with dementia and includes the expression of delusions, hallucinations, agitation or aggression, depression, anxiety, elation or euphoria, apathy or indifference, disinhibition, irritation or lability, aberrant motor behaviour (wandering), night-time behaviour (also known as sundowning), and a change in eating habits.

## Symptom management

People who receive a diagnosis of mild cognitive impairment due to Alzheimer's will need early support and signposting to information resources for dementia care, as well as legal guidance (e.g. setting up advance directives and power of attorney).

It is also important to educate people about the need to improve their cardiovascular and cerebrovascular health by eating healthily, exercising, stopping smoking, and doing activities that stimulate the brain and reduce social isolation. Evidence-based options include singing; learning a new language; dancing; gardening; completing jigsaws, crosswords and mind exercises; listening to music, and group exercise such as walking or playing table tennis.

## Therapeutic treatment

Three acetylcholinesterase inhibitors (AChEIs), donepezil, rivastigmine and galantamine, are recommended by NICE for mild and moderate Alzheimer's disease. Side effects with AChEIs include diarrhoea, nausea, possible vomiting and nasal rhinitis, muscle cramps, fatigue, insomnia and dizziness. Non-response or side effects with one agent does not mean this will happen with them all so an alternative should be tried.

The NMDA-receptor antagonist memantine is recommended for managing moderate or severe Alzheimer's disease and for people who cannot tolerate AChEIs. Common adverse effects include constipation, hypotension, confusion, dizziness, headache and tiredness. If tiredness is present, evening dosing could be considered in order to promote sleep.

## Other treatments

People with dementia and their families may turn to OTC and herbal supplements to try to prevent and/or delay the onset of dementia. Popular remedies include ginkgo biloba, which increases cerebral blood supply and reduces blood viscosity, but evidence for improvement is inconsistent.

## Non-pharmacological approaches

Evidence suggests that eating healthily, exercising regularly, being involved in mentally and socially stimulating activities, reducing stress and getting sufficient sleep all reduce the risk of and/or delay the onset of dementia.

Educational programmes for family members and care organisations using behavioural interventions have been found to be more effective than most pharmacological treatments in BPSD. These include distraction, reality orientation, occupational activities, reminiscence, sensory stimulation and social interaction, as well as exploring any possible underlying causes such as pain, anxiety, depression, or a recent change or upsetting event.

The management of sundowning can be achieved by minimising sleeping during the day to increase sleep at night, taking regular exercise and establishing a day and night routine. Use of bright light therapy in the morning may also reduce the incidence of agitation in the evening.

Dementia prevention is now a public health issue which all healthcare professionals need to be aware of to best support their patients and local community.

### reflective exercise

- **Would you be able to signpost people with dementia and their families to support that is local to you? The Alzheimer's Society and Dementia Action Alliance are useful starting points: alzheimers.org.uk and dementiaaction.org.uk/resources.**

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**Next month:** We focus on home medication reviews for vulnerable older people.