

## WORLD DISEASE DAY FOCUS



# World Alzheimer's Day (21 September 2008)

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Dementia presents one of the greatest health and social challenges of our time but it often goes unnoticed across the world. In Singapore, about 5.2 per cent of people over the age of 65 suffer from dementia. With a rapidly ageing population, the prevalence of dementia is expected to increase from 22,000 in 2005 to almost 53,000 in 2020 and 187,000 in 2050. More than half of those affected by dementia suffer from Alzheimer's disease.

There is currently intense research in the area of **mild cognitive impairment (MCI)**, an intermediate stage between normal ageing and dementia. Patients with MCI have been shown to convert to dementia at approximately 12 per cent annually and 80 per cent at six years of follow-up. However, there are still many controversies surrounding this heterogeneous clinical entity and initial drug trials have not shown clinical benefit.

The evaluation of cognitive impairment should be done via a multifaceted approach, focusing not only on the cognitive complaints, but also on the functional and social consequences of these cognitive changes. This would help the clinician diagnose dementia early, assess for the complications of dementia and establish the aetiology of the dementia and manage accordingly.

The types of dementia can be broadly divided into two categories – irreversible and reversible causes. The irreversible causes include degenerative causes (Alzheimer's disease (AD), frontotemporal dementia, diffuse Lewy body dementia), cerebrovascular disease (vascular dementia (VD)), prion-associated disorders (Creutzfeldt-Jakob disease) and neurogenetic disorders. The potentially reversible causes include infectious disorders (meningitis, encephalitis), toxic or metabolic causes (hypothyroidism, vitamin B12 deficiency, alcohol-related syndromes), neoplastic causes and hydrocephalus (obstructive or normal pressure hydrocephalus).

The aim of determining dementia aetiology is to rule out potentially reversible causes of dementia and selecting appropriate treatment strategies for the irreversible dementias. This is done via clinical history and physical examination, followed by laboratory investigations and neuroimaging. There are guidelines and practice parameters developed for evaluating dementia etiology and also more specific criteria for diagnosis of the more common AD and VD.

Pharmacotherapy should be part of a multi-pronged strategy to dementia management that encompasses a well-established diagnosis, education of patient and caregiver, non-pharmacological measures and comprehensive caregiver psychosocial intervention. Pharmacological strategies to address the underlying disease include treating identifiable reversible causes (such as vitamin deficiency states), reduction of established risk factors, and cognitive enhancers to slow the rate of disease progression. Cognitive enhancers such as acetylcholinesterase inhibitors (such as Donepezil, Galantamine, Rivastigmine) should be considered for the management of all patients with mild-to-moderate AD and can be considered for moderate-to-severe AD. N-methyl D-aspartate antagonists such as Memantine can be considered for the management of moderate-to-severe AD, either alone or in combination with acetylcholinesterase inhibitors. Memantine may be a treatment option for mild-to-moderate AD, if acetylcholinesterase inhibitor therapy is contra-indicated, not tolerated or if there is disease progression despite an adequate trial of acetylcholinesterase inhibitor. Memantine has been shown to be of clinical benefit and may be considered for use in the management of mild-to-moderate VD.

The decision to initiate costly symptomatic dementia treatment (cognitive enhancers) should always be made in consultation with the patient and family after careful consideration of the expected magnitude of benefit, side effects, co-morbidities and costs of treatment.

Current research is focusing on the area of therapeutics (disease modifying therapies such as gamma secretases, anti-amyloid approaches) as well as the diagnosis of dementia in the earlier stages (even in the preclinical dementia state) by way of neuropsychological profiling, proteomics, blood, neuroimaging and CSF biomarkers - as with early diagnosis, the affected patients are then more amenable to treatment advances.

**For more information regarding events on World Alzheimer's Day – kindly check [www.alzheimers.org.sg](http://www.alzheimers.org.sg) or call Alzheimer's Disease Association @ 6353 8734.**