

**Name of Disorder:** Alzheimer's Disease

**Essay Title:** Alzheimer's Disease: A Brief Review

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**Content:** Alzheimer's disease (AD) is the most common form of dementia. The diagnosis of AD is usually delayed until a significant decline in cognitive function has been observed. On average, AD may lead to death within 6 years after a confirmed diagnosis. Although research in AD has made remarkable progress, current marketed medications can only improve cognitive function temporarily but do not reverse the disease progression. AD is usually a heavy burden for both the patient, family and the society.

Age is a principle risk factor for AD. It is estimated that about 10% of individuals older than 65 years of age have AD and the incidence of AD doubles every 5 years after 65 years of age. The diagnosis of AD after 85 years of age may exceed one in three. Rarely, AD may occur earlier on in life. Genetic factors may also play a role in AD, as well as being female.

The development of AD is quite distinguished from the normal aging process. AD is a neurodegenerative disorder, characterized clinically by progressive deterioration of cognitive function and memory. Initially, short-term memory is affected and learning ability is deteriorated. All memory is gradually lost with the progression of the disease. In some individuals, AD may also alter behaviours or even personality. Motor functions (i.e. movement) are usually preserved until the very late stage of disease. At that time basic daily activities will be significantly impaired.

Although there is still no cure for AD, the cholinesterase inhibitors may improve or at least retain cognitive function for up to 12 months for early stages of AD. This class of medication works by increasing a particular chemical in the brain that is essential for cognitive function and memory. In later stages of AD when most nerve cells associated with cognitive function are degenerated, this treatment is less effective as the elevated chemical has less cells to act on. Memantine is the medication of choice for moderate to severe AD patients who are deteriorating following an initial response to a cholinesterase inhibitor or in previously untreated patients whose AD is moderate to severe. It works in a different way to the cholinesterase inhibitors and can be used as in combination with the

cholinesterase inhibitors. Unfortunately, no preventative treatment has been established either. Some evidence suggests that fish oil or regular consumption of fish may help prevent AD; however the effectiveness of such approaches is still under investigation.

**References:** None provided