



## Mental Disorder: An Overview of Alzheimer's Disease and Its Impact on Dementia

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### Abstract

Alzheimer's disease (AD) is a chronic neurodegenerative disorder that represents the leading cause of dementia, accounting for 60% to 70% of cases. This review article aims to provide a comprehensive overview of Alzheimer's disease, detailing its pathology, progression, symptoms, diagnosis, and current treatment options. Additionally, the impact of Alzheimer's on individuals, families, and healthcare systems is examined, highlighting the need for continued research and improved therapeutic strategies.

**Keywords:** Alzheimer's disease; Neurodegeneration; Dementia; Alzheimer's disease; Neurodegeneration

### Introduction

Alzheimer's disease, also referred to as Alzheimer's, is a degenerative disease characterized by progressive cognitive decline. First described by Alois Alzheimer in 1906, the disease is a primary cause of dementia, particularly in the elderly. It is characterized by the presence of beta-amyloid plaques and neurofibrillary tangles in the brain tissue. The progression of the disease is slow and gradual, with symptoms typically appearing after the age of 60. The most common symptom is memory loss, followed by difficulty with language, orientation, and problem-solving. As the disease progresses, it can lead to significant functional impairment and eventually death. There is currently no cure for Alzheimer's disease, but there are several treatments available to manage its symptoms and improve quality of life.

### Pathophysiology

The pathophysiology of Alzheimer's disease is complex and multifactorial. It involves a combination of genetic, environmental, and lifestyle factors. One of the key features of the disease is the accumulation of beta-amyloid protein in the brain, which forms toxic plaques that disrupt normal brain function. These plaques are believed to be formed by the aggregation of beta-amyloid precursor protein (APP). Another important feature is the presence of neurofibrillary tangles, which are composed of hyperphosphorylated tau protein. These tangles are found throughout the brain, particularly in the hippocampus and other regions involved in memory and learning. The exact mechanism through which these changes lead to cognitive decline is not fully understood, but it is believed to involve the disruption of normal synaptic transmission and the loss of neurons in various parts of the brain.

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