



KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Per. unthalaivar Kamarajar"

Alzheimer's disease

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Why is in news? Potential treatment route for Alzheimer's disease found in natural polyphenol

Scientists have found that highly abundant **naturally occurring plant-based polyphenols** (PPs) like tannic acid found in twigs of trees like Chestnut and Oak can modulate the ferroptosis-AD axis **to yield a safe, cost-effective strategy for combating Alzheimer's disease (AD)** and **reduce the societal burden** of this debilitating neurodegenerative disorder.

Ferroptosis, an iron-dependent form of programmed cell death, has emerged as a significant contributor to the development of AD.

About:

Alzheimer's disease is a **progressive neurologic disorder** that **causes the brain to shrink** (atrophy) and **brain cells to die**.

The disease is the **most common cause of dementia** – a continuous decline in thinking, behavioural and social skills that affect a person's ability to function independently.

It is a progressive disease beginning with mild memory loss and possibly leading to loss of the ability to carry on a conversation and respond to the environment.

It involves parts of the brain that control thought, memory, and language.

It can seriously affect a person's ability to carry out daily activities.

Alzheimer's disease is thought to be caused by the **abnormal build-up of proteins in and around brain cells**.

One of the proteins involved is called amyloid, deposits of which form plaques around brain cells.

The other protein is called tau, deposits of which form tangles within brain cells.

Alzheimer disease **most commonly affects older adults**, but it can **also affect people in their 30s or 40s**.

According to WHO estimates for 2017, dementia affects approximately 50 million people worldwide, a number that is projected to grow to 82 million by 2030.

In India, it is estimated that 5.3 million people (1 in 27) above the age of 60 have dementia in 2020. This is projected to rise to 7.6 million by 2030.

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