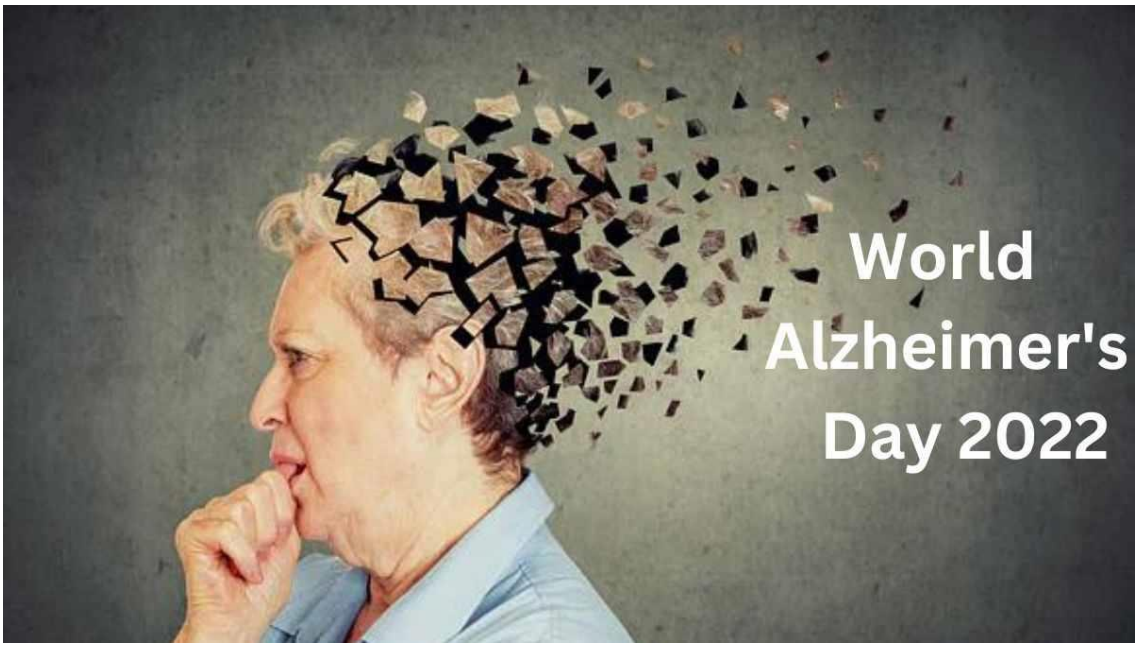
World Alzheimer's Day: An awareness initiative by Dept of Zoology, Barasat Govt. College



World Alzheimer's Day is celebrated on September 21 each year. On this day, the world concentrates its efforts on creating awareness of Alzheimer's disease. The disease is among the most prevalent forms of dementia; a set of disorders that disrupt mental function. World Alzheimer's Day is the perfect opportunity for us to raise our voices and find new ways of fighting the disease's effects.

Our Students of Department of Zoology, aimed to boost up the level of knowledge and of awareness about Alzheimer's disease by submitting short articles to know more about this disease on September 21, 2022.

ALZHEIMER'S DISEASE

Deepjani das

UG 3 rd Semester

Zoology Honours

Overview:-

Alzheimer's disease is a progressive neurologic disorder that causes the brain to shrink (atrophy)and brain cells to die .Alzheimer's disease is the most common cause to Dementia,a continuous decline in thinking, behavioral and social skills that effects a person's ability to function independently.

Alzheimer's is a progressive disease, where Dementia symptoms gradually worsen over a number of years. In its early stage Alzheimer's ,individuals lose the ability to carry on a conversation. On average ,a person with Alzheimer's lives 4 to 8 years after diagnosis but can live as 20 depending on other factors.

Types of Alzheimer's:-

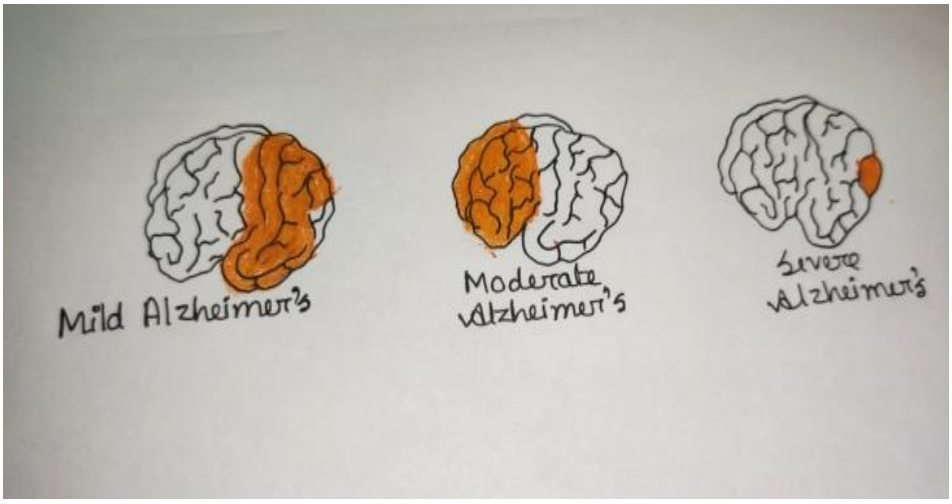
Based on the intensity of the typical Alzheimer's symptoms, it can be classified into the following types.

1.Mild Alzheimer's:- This includes the beginning of cognitive impairment that causes difficulties in remembering daily routine such as at work , paying bills ,others. These symptoms are not very serious , the patients at this stage manage to remain functional with a certain amount to difficulty.

2.Moderate Alzheimer's:- Because of a significant amount of neuronal damage ,the symptoms of moderate Alzheimer's are more intense. The confusion becomes worse and due to the amount of memory loss ,the become increasing dependent on other.These individuals ,even though physically agile are not able to perform routine tasks as the decision take over the sensory processing of their thoughts.

3.severe Alzheimer's:- As the plaques and tangles spread , the brain cells start dying . This results in shrinkage of brain tissue . The patients with this condition are typically bedridden and re hardly able to communicate .

These subtypes are more like stages of disease and it often progress form a milder to a more severe form.

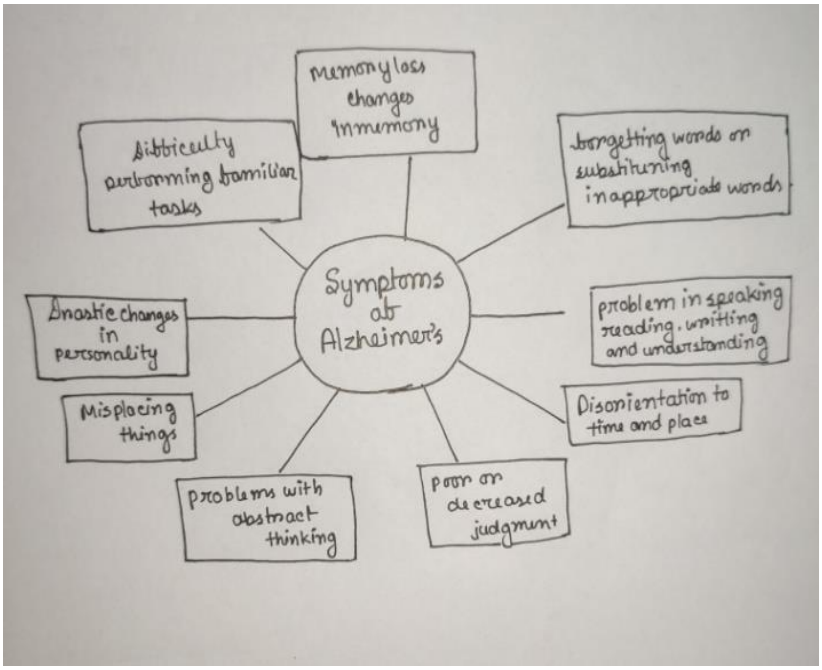


Causes:- The exact causes of this disease aren't fully understood . But at a basic level , brain proteins fails to function normally , which disrupts the work of brain cells (neurons) and triggers a series of toxic events . Neurons are damaged and lose connections to each others .

Most people believe this disease caused by combination of genetic ,lifestyle and environmental functions that effect the brain over time .

Researchers trying to understand the cause of Alzheimer's disease focused on the role of the two proteins , plaques and tangles . This proteins disrupt the transport and are toxic to cells .

Symptoms of Alzheimer's disease:-



1.Early symptoms:- In early stage the main symptoms of Alzheimer's disease is memory lapse .

- Forget about recent conversation .
- Misplace items .
- Forget the name and objects .
- Ask questions repetitively
- Have trouble thinking of right words .

There are often signs of mood changes ,increasing anxiety .

2. Middle stage symptoms:-

- Increasing confusion for example , getting lost , wandering .
- Obsessive , repetitive or impulse behavior .
- Changes mood , depression , feeling frustrated (aphasia).
- Seeing or hearing that other people do not (hallucinations)

Some people also have some symptoms of vascular dementia .

3.Later symptoms:-

- Hallucinations and delusions may come and go over the course of the illness .
- Sometimes people can be violent , suspicious of those around them .
- Difficulty eating and swallowing (dysphagia) .
- Unintentional passing of urine (urinary incontinence)or stools (bowel incontinence) .

Reference:-https://www.nia.nih.gov \ https://www.cdc.gov

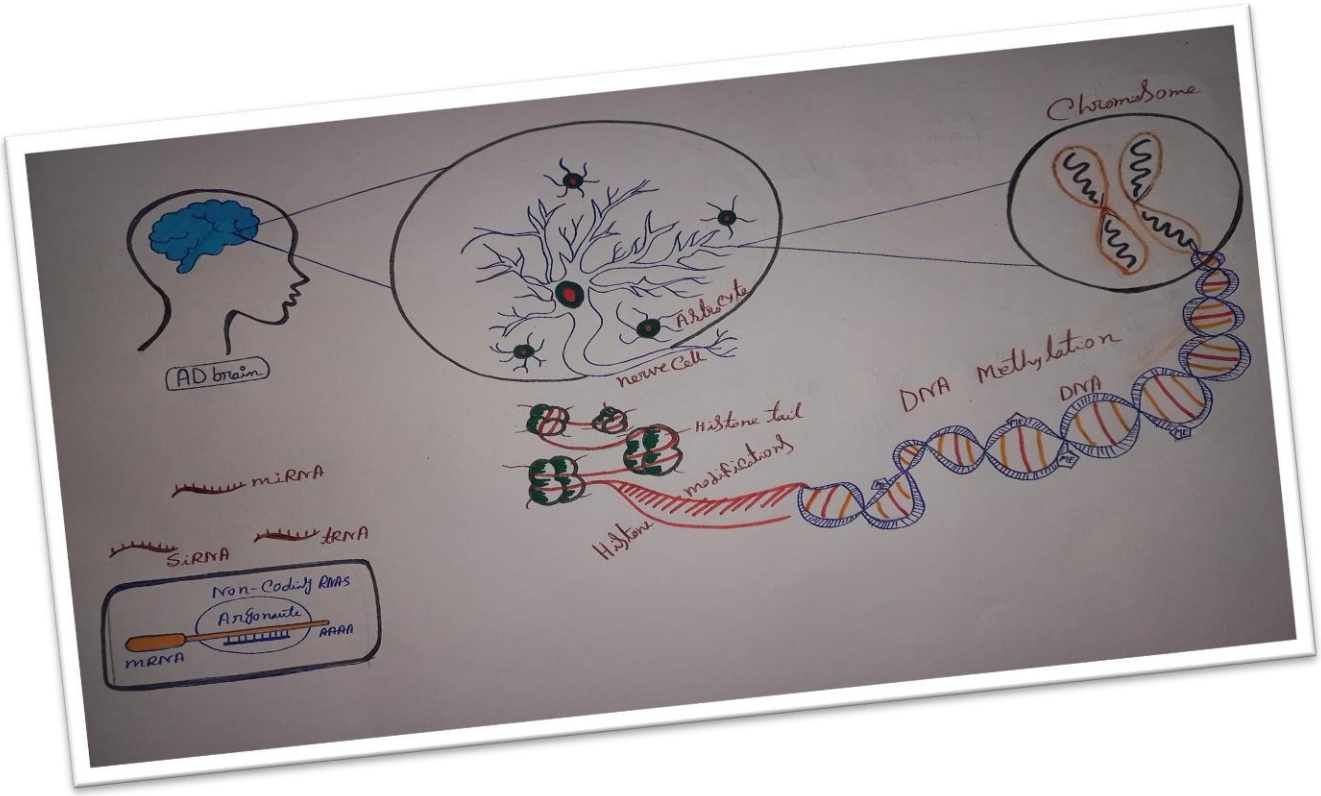
Alzhemier's Disease

"Know Dementia, Know Alzheimer's"

Saheli Majumder
UG 3 rd Semester
Zoology Honours

- **DEFINATION:** A progressive disease that destroys memory and other important mental functions.

Brain cell connections and the cells themselves degenerate and die, eventually destroying memory and other important mental functions.



Classified into two subtypes depending on the age of onset:

Early onset Alzheimer's Disease [EOAD]: also called familial AD

- Starts before the age of 65 years, typically in late 40s and early 50s
- Accounts for 1-5% AD patients
- Most obvious family aggregation of AD patients
- Mendelian autosomal dominant pattern of inheritance [<1% AD patients]
- Genes encode protein involved in
- Amyloid Precursor Protein [APP] and A13 generation
- GENES

- **APP**: Chromosome 21

Presenilin 1[PSEN1] : chromosome

14 Presenilin 2 [PSEN2]: chromosome 1

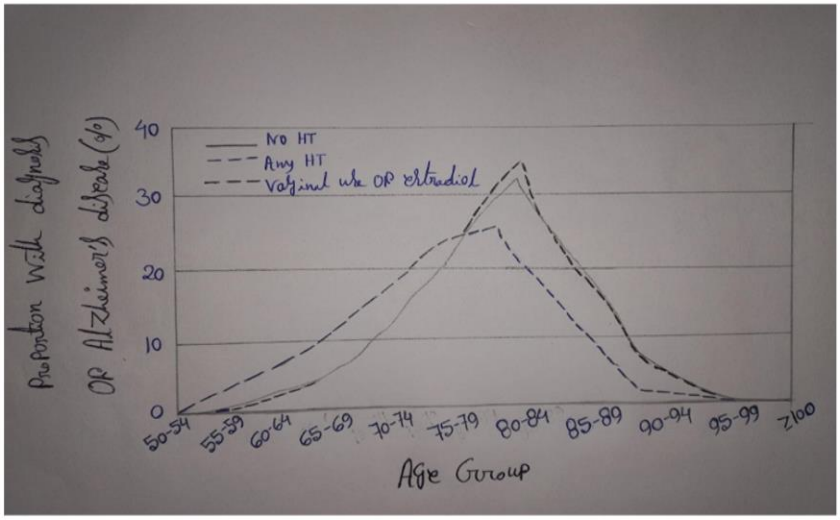
2. Late onset Alzheimer's Disease [LOAD]: also called sporadic AD-Starts after the age of 65 years

-Accounts for >95% of cases.

- APOE-e4 is the first risk gene identified and remains the gene with strongest impact on risk.

Hormones and dementia

- Women are more at risk of dementia than men with women making up 65% of people who currently have dementia. Whilst age is the main risk factor for dementia and women tend to live longer than men, this does not completely explain the difference.
- Most of the following research has focused specifically on Alzheimer's disease, which is the most common cause of dementia.problems with the acetylcholine signalling system, which could be connected to decreased oestrogen levels.Oestrogen's protective effects
- Alzheimer's is characterised by a build-up of amyloid-β and tau proteins in the brain. Research has shown that oestrogen may help to protect the brain from Alzheimer'sby blocking some of the harmful effects of the amyloid-β protein.
- One way that amyloid-β may do this is by increasing the production of moleculesinside the cells, called free radicals. Free radicals are a normal by-product of energy production, but too many of them can be harmful. The damage these excess free radicals cause to brain cells has been linked to Alzheimer's.
- Molecules called antioxidants act as an antidote to free radicals by neutralising
  Them so they are no longer harmful. Studies have shown that higher oestroge levels reduce a number of free radicals produced by cells.
- Researchers think oestrogen may cause the body to make more antioxidants, protecting brain cells from damage. This could explain why the sudden drop in women's oestrogen levels following menopause seems to make them more vulnerable to Alzheimer's .Hormon therapy.
- Some women choose to have hormone replacement therapy (HRT) when they go through menopause to help relieve some of the more unpleasant symptoms, such as hot flushes and mood swings. HRT is usually a combination of oestrogen and another hormone called progesterone.
- Until there is better evidence, the potential benefits of HRT as a way to reduce the risk of Alzheimer's disease do not outweigh the potential risks of HRT, which includes an increased risk of certain types of cancer, heart disease and stroke.
  Hormones may still provide a way to treat or prevent dementia though.



Source –

www. Myoclonic .org

Awareness

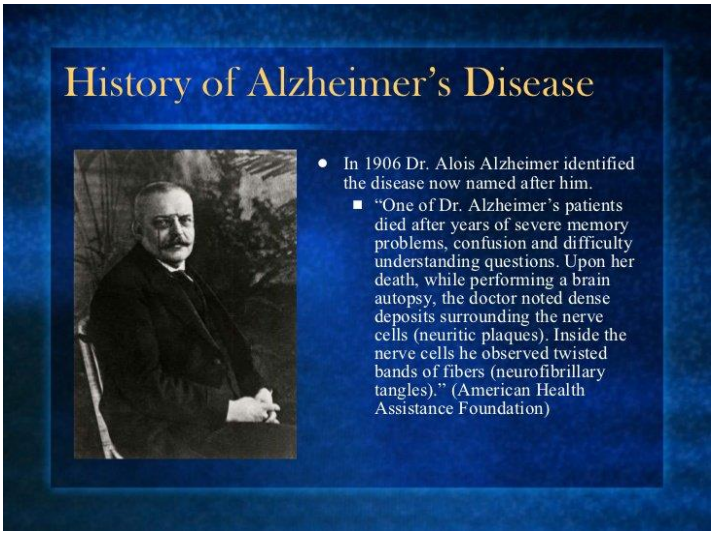
& Alzheimer's disease

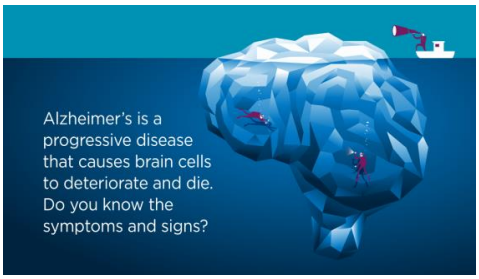
Sayan Halder,

Sem-3, ZOO(H)

Alzheimer's disease (**AD**) is a neurodegenerative disease or a brain disorder that slowly destroys memory and thinking skills and, eventually, the ability to carry out the simplest tasks. In most people with the disease, those with the late-onset type, symptoms first appear in their mid-60s. Early-onset Alzheimer's occurs between a person's 30s and mid-60s and is very rare. Alzheimer's disease is the most common cause of dementia among older adults.

The disease is named after Dr. Alois Alzheimer. In 1906, Dr. Alzheimer noticed changes in the brain tissue of a woman who had died of an unusual mental illness. Her symptoms included memory loss, language problems, and unpredictable behavior. After she died, he examined her brain and found many abnormal clumps (now called amyloid plaques) and tangled bundles of fibers (now called neurofibrillary, or tau, tangles).





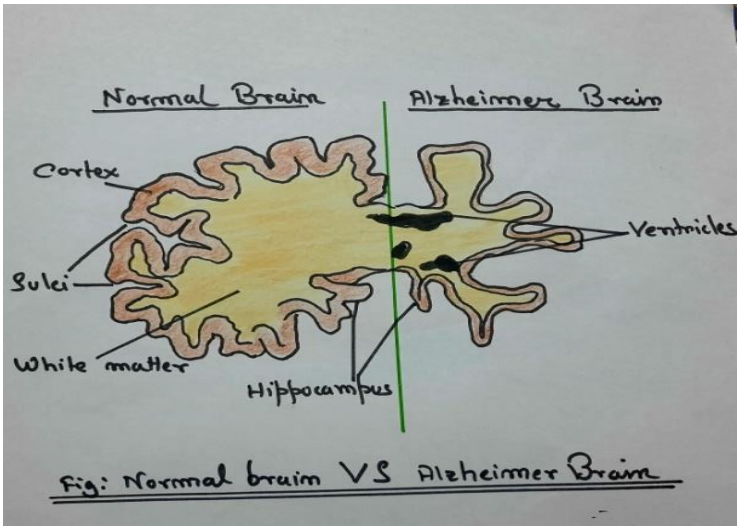
Causes and Symptoms

The causes probably include a combination of age-related changes in the brain, along with genetic, environmental, and lifestyle factors. The importance of any one of these factors in increasing or decreasing the risk of Alzheimer's disease may differ from person to person.

As neurons are injured and die throughout the brain, connections between networks of neurons may break down, and many brain regions begin to shrink. By the final stages of Alzheimer's, this process, called brain atrophy, is widespread, causing significant loss of brain volume. Less than 1% of the time,

Alzheimer's is caused by specific genetic changes that virtually guarantee a person will develop the disease.

Dementia is a syndrome that affects mental cognitive tasks such as memory and reasoning. It can occur due to a variety of conditions, the most common of which is Alzheimer’s disease.



Damage occurring in the brain of someone with Alzheimer’s disease begins to show itself in very early clinical signs and symptoms.

Early symptoms	Progressive symptoms	Advanced symptoms
• occasional forgetfulness • losing track of time • losing your way in familiar settings	• frequent forgetfulness • more confusion • repetitive questioning • poor hygiene • poor decision making	• unable to care for yourself • trouble with time • difficulty remembering familiar people and places • change in behavior • depression • aggression

https://www.healthline.com/health/alzheimers-disease/difference-dementia-alzheimers#dementia-overview

AWARENESS

World Alzheimer’s Day takes place during World Alzheimer’s Month and is on 21 September every year. During World Alzheimer’s Month, we call on everyone, from individuals to large organisations, including every Alzheimer and dementia association globally, to support World Alzheimer’s Month by getting involved in some way. In 2022, the campaign will have a special focus on post-diagnostis

support. Following recent developments and potential breakthroughs, in both dementia treatment and support, the campaign will aim to highlight the importance of support for people living with dementia and families following a diagnosis.

BENEFITS

1. **Low awareness drives higher medical costs**
2. **Awareness facilitates timely medical intervention**
3. **Awareness erodes stigma and further enables timely medical intervention**
4. **Awareness and management of risk factors can lower incidence of AD**
5. **Awareness accelerates scientific progress**

DIAGNOSIS AND TREATMENT

A diagnostic work-up would likely include the following tests:

Physical and neurological exam

Your doctor will perform a physical exam and likely assess overall neurological health by testing the following:

- Reflexes
- Muscle tone and strength
- Ability to get up from a chair and walk across the room
- Sense of sight and hearing
- Coordination
- Balance

.

Mental status and neuropsychological testing Doctor may give a brief mental status test to assess memory and other thinking skills. Longer forms of neuropsychological testing may provide additional details about mental function compared with people of a similar age and education level. These tests can help establish a diagnosis and serve as a starting point to track the progression of symptoms in the future.

Brain imaging

Images of the brain are used chiefly to pinpoint visible abnormalities related to conditions other than Alzheimer's disease — such as strokes, trauma or tumors — that may cause cognitive change. New imaging applications — currently used primarily in major medical centers or in clinical trials — may enable doctors to detect specific brain changes caused by Alzheimer's.

Imaging of brain structures include the following:

- **Magnetic resonance imaging (MRI).** MRI uses radio waves and a strong magnetic field to produce detailed images of the brain. While they may show brain shrinkage of brain regions associated with Alzheimer's disease, MRI scans also rule out other conditions. An MRI is generally preferred to a CT scan for the evaluation of dementia.

- **Amyloid PET imaging** can measure the burden of amyloid deposits in the brain. This imaging is primarily used in research but may be used if a person has unusual or very early onset of dementia symptoms.
- **Tau PET imaging,** which measures the burden of neurofibrillary tangles in the brain, is generally used in the research setting.

In special circumstances, such as rapidly progressive dementia, dementia with atypical features or early-onset dementia, other tests may be used to measure abnormal beta-amyloid and tau in the cerebrospinal fluid.

DRUGS

Drug Name	Drug Type and Use	How It Works
Aducanumab	Disease-modifying immunotherapy prescribed to treat mild cognitive impairment or mild Alzheimer's	Removes abnormal beta-amyloid to help reduce the number of plaques in the brain
Donepezil	Cholinesterase inhibitor prescribed to treat symptoms of mild, moderate, and severe Alzheimer's	Prevents the breakdown of acetylcholine in the brain
Rivastigmine	Cholinesterase inhibitor prescribed to treat symptoms of mild, moderate, and severe Alzheimer's	Prevents the breakdown of acetylcholine and butyrylcholine (a brain chemical similar to acetylcholine) in the brain
Memantine	N-methyl D-aspartate (NMDA) antagonist prescribed to treat symptoms of moderate to severe Alzheimer's	Blocks the toxic effects associated with excess glutamate and regulates glutamate activation
Manufactured combination of memantine and donepezil	NMDA antagonist and cholinesterase inhibitor prescribed to treat symptoms of moderate to severe Alzheimer's	Blocks the toxic effects associated with excess glutamate and prevents the breakdown of acetylcholine in the brain
Galantamine	Cholinesterase inhibitor prescribed to treat symptoms of mild to moderate Alzheimer's	Prevents the breakdown of acetylcholine and stimulates nicotinic receptors to release more acetylcholine in the brain

https://www.nia.nih.gov/health/how-alzheimers-disease-treated (DRUGS CHART)

Lifestyle and home remedies

Healthy lifestyle choices promote good overall health and may play a role in maintaining cognitive health.

Exercise

Regular exercise is an important part of a treatment plan. Activities such as a daily walk can help improve mood and maintain the health of joints, muscles and the heart. Exercise can also promote restful sleep and prevent constipation — and it's beneficial for care partners, too.

People with Alzheimer's who develop trouble walking may still be able to use a stationary bike, stretch with elastic bands or participate in chair exercises. You may find exercise programs geared to older adults on TV or on DVDs.

Social engagement and activities

Social interactions and activities can support the abilities and skills that are preserved. Doing things that are meaningful and enjoyable are important for the overall well-being of a person with Alzheimer's disease. These might include:

- Listening to music or dancing or reading books
- Gardening or crafts
- Social events at senior or memory care centers
- Planned activities with children

(https://pubmed.ncbi.nlm.nih.gov/7919566/)

Watching a Loved One Slip Away From Alzheimer's Disease

Tanisha Nowrin

Sem-3, ZOOA

"Love is the only memory one never loses, because even if one loses his mind the memory always remains in the heart"

What is Alzheimer's disease?

Alzheimer's disease is a neurological condition in which the death of brain cells causes memory loss and cognitive decline. It is the most common type of dementia Alzheimer's disease involves part of the brain that controls thought memory and language.

What causes Alzheimer's disease ?

The causes probably include a combination of age related changes in the brain, along with genetic, environmental and lifestyle factors. The importance of anyone of these factors n increasing or decreasing the risk of Alzheimer's disease may differ from person to person.

Case Study of Alzheimer's disease:

For a person with Alzheimer's disease it is mentally stressful and devastating to accept the truth of the memory loss. The memories, relationships and the traits that actually defines who they are. This results in the changes seen in their behaviour like stress, sadness, anger.

There are few cases that have been reported in West Bengal that represents how it is emotionally stressful for someone with Alzheimer's disease and the one taking care of that person.

1. **89-hour Search For a Loved One:**
   This case was reported during the lockdown in 2020.
   A 65- year-old Alzheimer's patient Paresh Roy, a former central government employee, was tracked down by his family after 89- hour of intensive search when he was found missing.
   He was found lying on the footpath and on being asked he said he went out on a stroll but wasn't able to recognize his way back which made him spent his days and nights on the footpath of a completely different area.
   The family members tracked him down with the help of a rickshaw driver when he was able to recognize Paresh in the poster.

   Reference: https://timesofindia.indiatimes.com/city/kolkata/after-89-hour-search-kin-find-alzheimers-patient/articleshow/75259913.cms

How to interact with a person with Alzheimer's disease

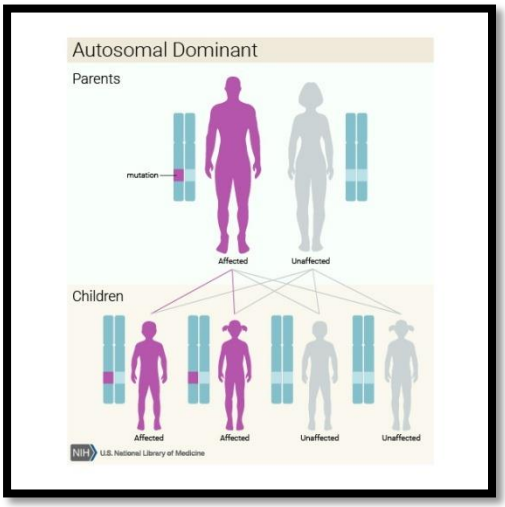
A person with Alzheimer's disease finds it hard to interact and communicate with others hence normal people should be very careful when dealing with people with Alzheimer's disease.

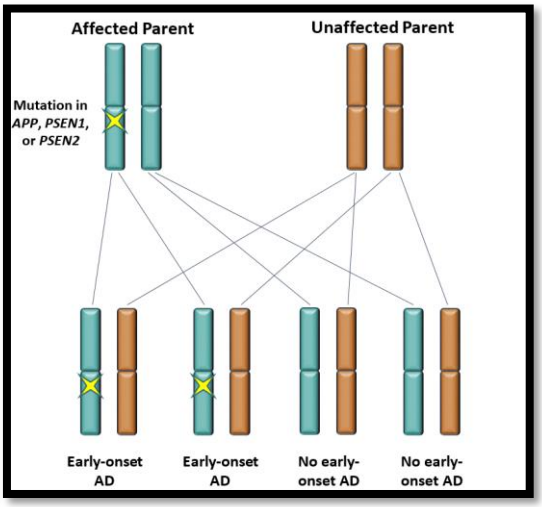
- People with Alzheimer's disease tend to get behavioural changes very easily so we should be very careful and have patience while taking care of them.
- We should keep things simple and should learn to cope up with them. For example, ask or say one thing at a time.
- We should have a daily routine so the person knows when certain things will happen.
- We also need to reassure that the person that he or she is safe and you are there to help.
- We should be more patient with them and should not try to get annoyed easily as they tend to ask things again.
- We also need to focus on his or her feelings rather than words. For example, you seem worried.
- We should not argue or try to reason with the person and we should try our best to keep the person happy.

DEMENTIA AND GENETICS OF ALZHEIMER'S DISEASE

Anushka Ghosh (UG SEM 5, ZOOLOGY HONS, 2020-2023) Barasat Govt. College, Dept. of Zoology

Alzheimer's is very common memory loss related disorder or a type of dementia in elderly people. **Neurodegeneration** is responsible for short time memory loss, behavioral changes, confusion in decision making etc. Or in other words, not to communicate with others, not to respond for something are the key symptoms. **21st September** is celebrated as **WORLD ALZHEIMER'S DAY.**





GENETICS OF ALZHEIMER'S DISEASE

❖ GENETIC BACKGROUND

Genectic inheritance is not necessary for alzheimer's. There is a wide age range for the disease, one for **EARLY ONSET AD OR EOAD (30- 65 YEARS, rare type)** and another is **LATE ONSET AD OR LOAD (MORE THAN 65 YEARS, most common).** There are some genes which are associated with AD , Those are ***Amyloid precursor protein (APP) on chromosome 21, Presenilin 1 (PSEN1) on chromosome 14 ,Presenilin 2 (PSEN2) on chromosome 1*** and ***APOE (Apolipoprotein E) gene on chromosome 19.*** The **APOE** gene have 3 types of allele, can increase or decrease the risk of Alzheimer's. Specially the ***APOEε2*** and ***APOEε4*** alleles are the **risk factors** that increase the development of AD in later and earlier age of life respectively.

The presence or absence of ***APOEε4* allele** does not always mean that the person will definitely affect with AD or not . It may be reciprocal. For **EOAD**, the mutations of **APP, PSEN1, PSEN2** genes develops AD. Basically lack of blood supply in neurons causes the inability of nerve functions. The breakdown of **APP** forms harmful plaques which is called **AMYLOID PLAQUE,**

generates between neurons , to lose the communication within brain. Also abnormal **TAU protein**, which generally accumulates and forms **tangles** within the cell body of neuron. As another factors like vascular system may fail to deliver sufficient amount of O_2 and nutrients to brain.

It is inherited by **AUTOSOMAL DOMINANT PATTERN.** Individuals who have down syndrome , also have the chance of AD, because of trisomy 21. Also **PRESENILIN 1 and PRESENILIN 2 GENE MUTATION** is the another reason, there are 45 different AD mutations in **PSEN1** and only 2 in **PSEN2** are reported.

❖ AWARENESS

This is must to spread the awareness of ALZHEIMER'S DISEASE and also to understand the recognition , the mechanisms and more information more studies will make easier to investigate among people.. The very important thing to notice the signs and symptoms of an aged people. Every single seriousness is the progression of awareness and knowledge.

❖ REFERENCES

1. ALZHEIMER'S DISEASE GENETICS FACT SHEET

   https://www.nia.nih.gov/health/alzheimers-disease-genetics-fact-sheet

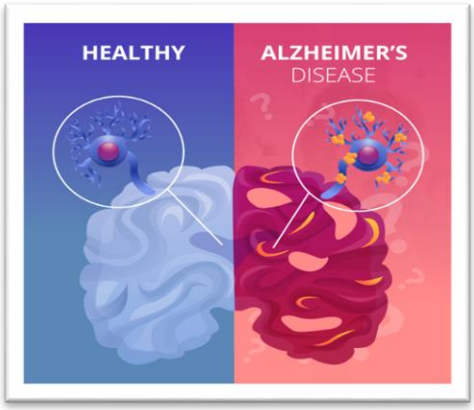
2. GENETICS OF ALZHEIMER'S DISEASE; Authors : LYNN M BEKRIS, CHANG EN-YU, THOMAS D BIRD , DEBBY W TSUANG.
   https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3044597/
3. THE GENETICS OF ALZHEIMER'S DISEASE ; CURRENT STATUS AND FUTURE PROSPECTS BY DEBORAH BLACKER AND RUDOLPH E. TANZI.

- **PICTURE SOURCE**
- MEDLINE PLUS
- NCRAD – INDIANA UNIVERSITY

ALZHEIMER'S DISEASE AND ITS DIFFERENT TYPES

Basusri Dandapat (UG SEM 5, ZOOLOGY HONS, 2020-2023) Barasat Govt. College, Dept. of Zoology

- **Mild Alzheimer's disease**



As Alzheimer's worsens, people experience greater memory loss and other cognitive difficulties. Mild IADL deficits are common in individuals with AMCI. They must be incorporated into MCI criteria. The IADLS:

remembering appointments, family occasions, holidays, and medications and assembling tax records, business affairs, or other papers—appear to be characteristic of clinically significant cognitive impairment. Patients with AMCI have impairment in memory and processing speed and greater medial temporal atrophy were associated with greater IADL deficits. People are often diagnosed in this stage.

- **Moderate Alzheimer's disease**

During this stage, damage occurs in areas of the brain that control language, reasoning, conscious thought, and sensory processing. Middle-stage Alzheimer's is typically the longest stage and last for many years. As the disease progresses, the person with Alzheimer's will require a greater level of care.

During the middle stage of Alzheimer's, the dementia symptoms are more pronounced. the person may confuse words, get frustrated or angry, and act in unexpected ways, such as refusing to bathe. Damage to nerve cells in the brain can also make it difficult for the person to express thoughts and perform routine tasks without assistance. Generally symptoms vary from person to person, which may include:

- Being forgetful of events or personal history.
- Feeling moody or withdrawn, especially in socially or mentally challenging situations.
- Being unable to recall information about themselves like their address or telephone number. Having trouble controlling their bladder and bowels.
- Experiencing changes in sleep patterns, such as sleeping during the day and becoming restless at night. Showing an increased tendency to wander and become lost.
- Demonstrating personality and behavioral changes, including suspiciousness and delusions or compulsive, repetitive behavior.

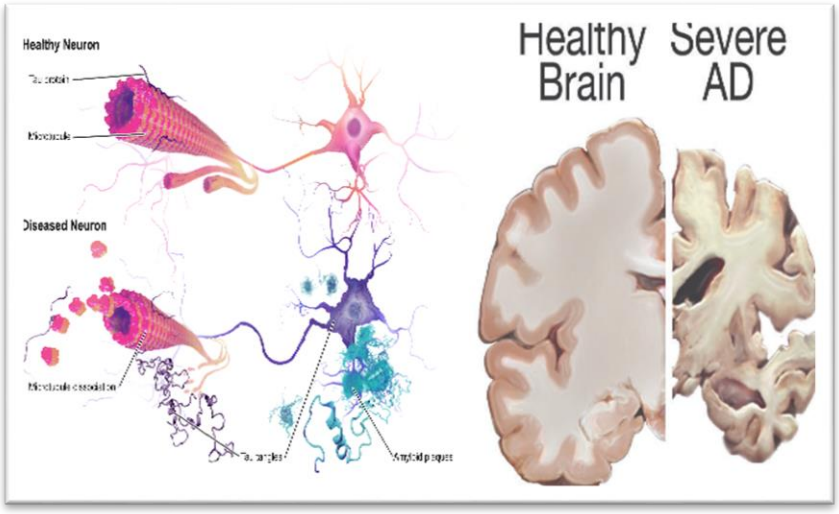
The person living with Alzheimer's can still participate in daily activities with assistance. The need for more intensive care increases. In addition, people at this stage may have hallucinations, delusions and paranoia and may behave impulsively.

- **Severe Alzheimer's disease**

Plaques and tangles spread throughout the brain, and brain tissue shrinks significantly. People in this stage cannot communicate and are completely dependent on others. At the end of life the person may be in bed most or all of the time as the body shuts down. In this final stage of the disease, dementia symptoms are severe. Individuals lose the ability to respond to their environment, to carry on a conversation and, eventually, to control movement. They may still be able to say words or phrases, but communicating pain becomes difficult. The memory and cognitive skills continue to worsen. Significant personality changes may take place. Individuals from this stage:

- Require around-the-clock assistance with daily personal care. Lose awareness of recent experiences as well as of their surroundings.
- Experience changes in physical abilities, including walking, sitting and, eventually, swallowing. Have difficulty communicating.
- Become vulnerable to infections, especially pneumonia.

The person living with Alzheimer's may not be able to initiate engagement as much during the late stage, but he or she can still benefit from interaction in ways that are appropriate, like listening to relaxing music or receiving reassurance through gentle touch.



REFERENCES:

- Alzheimer's Disease Neuroimaging Initiative, JUNE 6, 2011, Patrick J. Brown, PhD; D. P. Devanand, MD; Xinhua Liu, PhD; et al Elise Caccappolo, PhD; *Arch Gen Psychiatry.* 2011;68(6):617-626. doi:10.1001/archgenpsychiatry.2011.57

- The Course of Psychopathologic Features in Mild to Moderate Alzheimer Disease; MARCH, 1997, D. P. Devanand, MD; Diane M. Jacobs, PhD; Ming-Xin Tang, PhD; Caridad Del Castillo-Castaneda; Mary Sano, PhD; Karen Marder, MD; Karen Bell, MD; Frederick W. Bylsma, PhD; Jason Brandt, PhD; Marilyn Albert, PhD; Yaakov Stern, PhD;

  Arch Gen Psychiatry. 1997;54:257-263

Alzheimer's Disease and Its Worldwide Status

Nandana Sen

UG 5th Semester (2020-2023)

Zoology Honours

Alzheimer's Disease is a progressive disease that destroys memory and other important mental functions. Brain cell connections and the cells themselves degenerate and die, eventually destroying memory and other important mental functions.

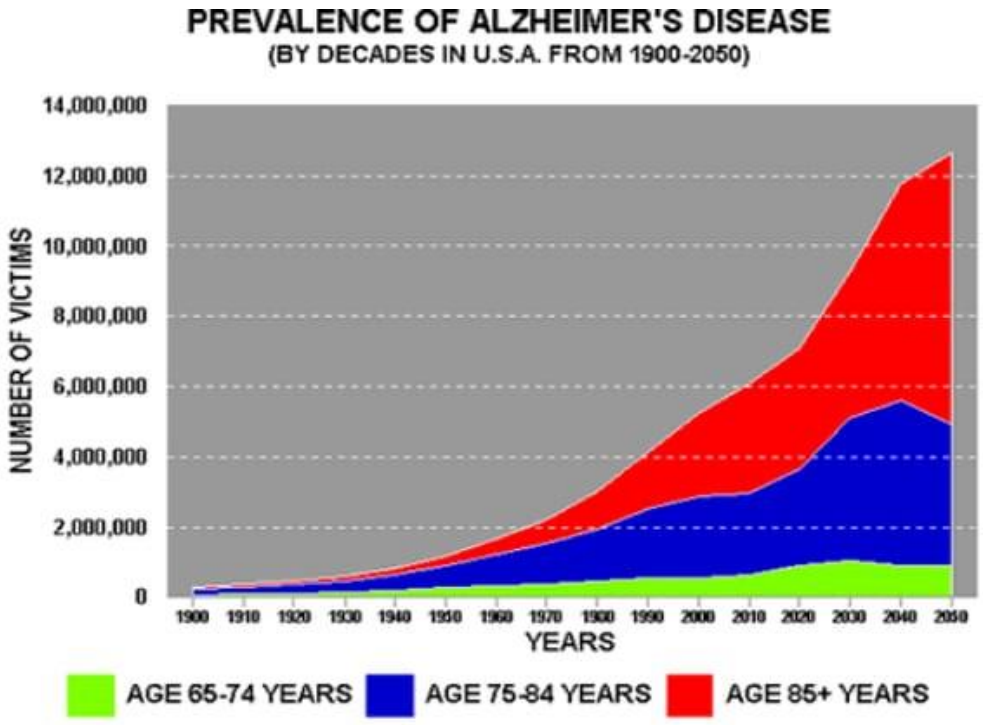
The global prevalence of Alzheimer's disease has been estimated to be as high as 24 million, and is predicted to double every 20 years until at least 2040. As the population is increasing day by day, the risk of Alzheimer's Disease is also growing exponentially, particularly among the old persons.

Although the shapes of the curves are similar, there is a variation in incidence rates throughout the world.

Approximately 5.8 million people in the United States age 65 and above are effected with Alzheimer's disease. Of those, 80% are 75 years old and above.

Out of approximately 50 million people worldwide suffering with dementia, about 60 - 70% are estimated to have Alzheimer's disease.

Official death certificates recorded 121,499 deaths from AD in 2019, making Alzheimer's the sixth-leading cause of death in the United States and the fifth-leading cause of death among Americans age 65 and older. Between 2000 and 2019, reported deaths from AD increased more than 145%.



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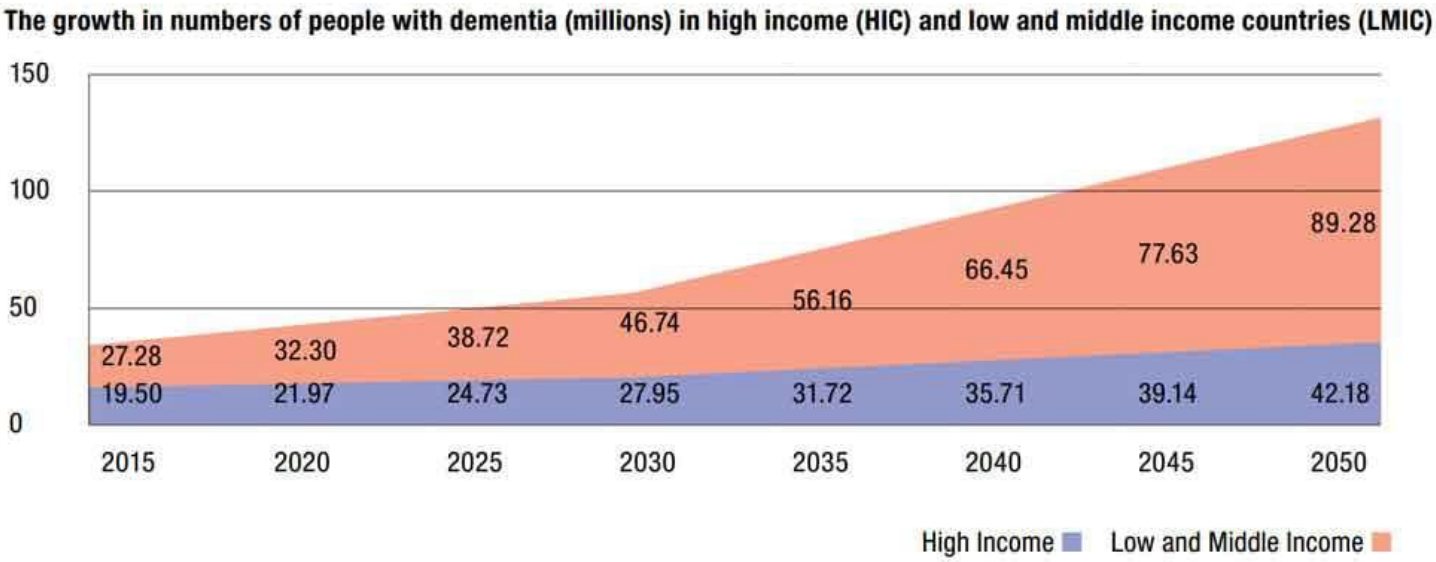

Ref-https://images.app.goo.gl/nYFVRLJLKAmjX1JMA

REFERENCES

https://alzheimersnewstoday.com/alzheimers-disease-statistics/

https://www.alzint.org/resource/world-alzheimer-report-2022/

ALZHEIMER'S DISEASE: A progressive neurological disease

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5th semester (2020-2023)

Zoology Honours

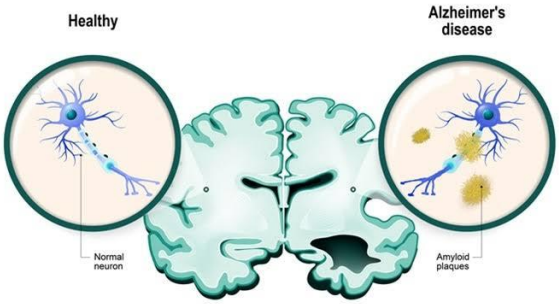
Alzheimer's is a type of dementia (general term of memory loss) a progressive impairment in memory, cognitive function (like thinking, learning, intelligence), judgment, language and other activities of daily life.

Alois Alzheimer, German neurologist first discovered the disease in,1906. He describe some pathological changes, now referred as neurofibrillary tangles and neurotic plagues are cause this condition.

People with Alzheimer's disease may experience mood changes, find it difficult to learn new information and become unable to recognize friends and family, loss of motivation, self neglect and behavioural issue.

Risk factors that cause Alzheimer's disease:-

1 . Genetic abnormality like down syndrome.



2. Head injury.

3. Hypertension

4. Increasing age .

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 .

Diagnosis of Alzheimer disease requires both the presence of dementia and a characteristic pattern of brain changes, including atrophy, neuronal loss and granulovacuolar cytoplasmic changes in the neocortical association areas, hippocampus, and other brain regions.

- **Factors that causes Alzheimer's disease**
- Excessive formation of abnormal proteins at nerve terminals (Neurotic plaques)

- This abnormal proteins damage the neurons and block transmission of signalling

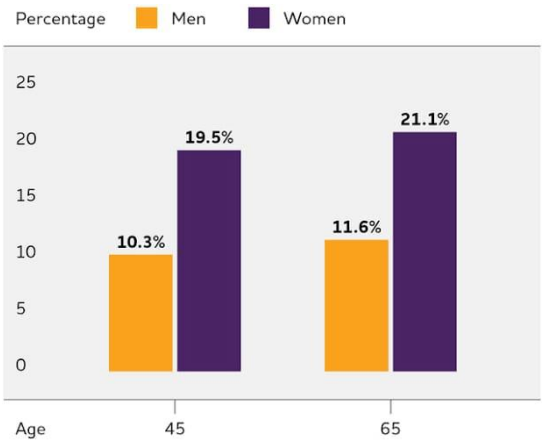
- Due to blockage of nerve transmission system, the normal functioning of brain disturbed

- A progressive impairment in memory and cognitive function

Present status of Alzheimer's cases in India:

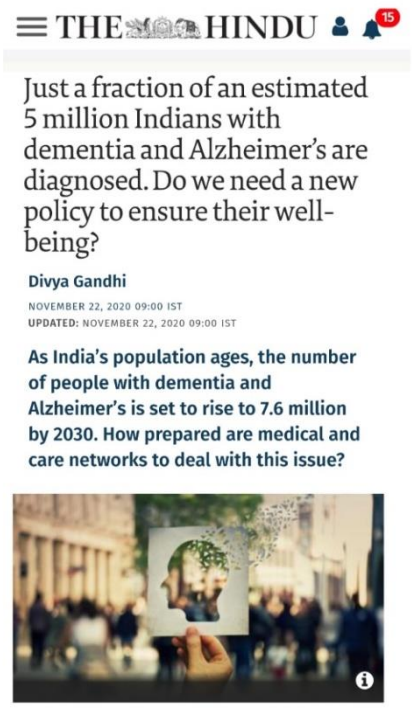
- According to a recent study, the number of dementia cases in India is expected to almost double by 2050, according to a Lancet report. The tally will increase to 11,422,692 from 3,843,118 in 2019.

And a higher proportion of women than men will suffer from the disease during the period



- India, with increased life expectancy and an ageing population, it is estimated that over 5.3 million people live with dementia (a syndrome in which memory, thinking, communication and social abilities deteriorate), of which Alzheimer's is the most common cause.

This figure is set to rise to 7.6 million in 2030, according to the Dementia in India Report 2020 published by the Alzheimer's and Related Disorders Society of India (ARDSI).


THE HINDU

Just a fraction of an estimated 5 million Indians with dementia and Alzheimer's are diagnosed. Do we need a new policy to ensure their well-being?

Divya Gandhi

NOVEMBER 22, 2020 09:00 IST
UPDATED: NOVEMBER 22, 2020 09:00 IST

As India's population ages, the number of people with dementia and Alzheimer's is set to rise to 7.6 million by 2030. How prepared are medical and care networks to deal with this issue?

Treatments of Alzheimer's patients

Tista Das

UG 5th Semester (2020-2023)

Zoology Honours

Dementia is a general term, while Alzheimer's disease is a specific brain disease. The Alzheimer's disease is identified by symptoms of dementia that gradually get worse over time. It first affects the part of brain associated with learning, thinking. That is why early symptoms often include changes in memory, thinking and reasoning skills.

Treatments of Alzheimer's patients:

Actually in this disease, no cure exists, but proper medication and management strategies may temporarily improve symptoms.

Three cholinesterase inhibitors are commonly prescribed in the treatment of Alzheimer's disease. Doneperzil (Aricept) is allowed to treat all stages of the disease. It's taken once a day a pill. Galantamine (Razadyne) is allowed to treat mild to moderate Alzheimer's disease. Rivastigmine (Exelon) is recommended for treatment of mild to moderate Alzheimer's disease.

Aducanumab is the only disease modifying medication currently approved for treatment of Alzheimer's patient.

Physical exercise like aerobic activity for 20-30 minutes for 5 days in a week improves cardiovascular health of the Alzheimer's patients.

Frequent visits and social interaction, exercise, music, jokes and serving patients their favorite foods are all simple things that can have a lasting emotional impact on a patient's quality of life and subjective well- being.

References:

1. https://mayoclinic.org.in
2. https:// www.nia.nih.gov.in
3. www.sciencedaily.com

Picture source:

www.pinterest.com