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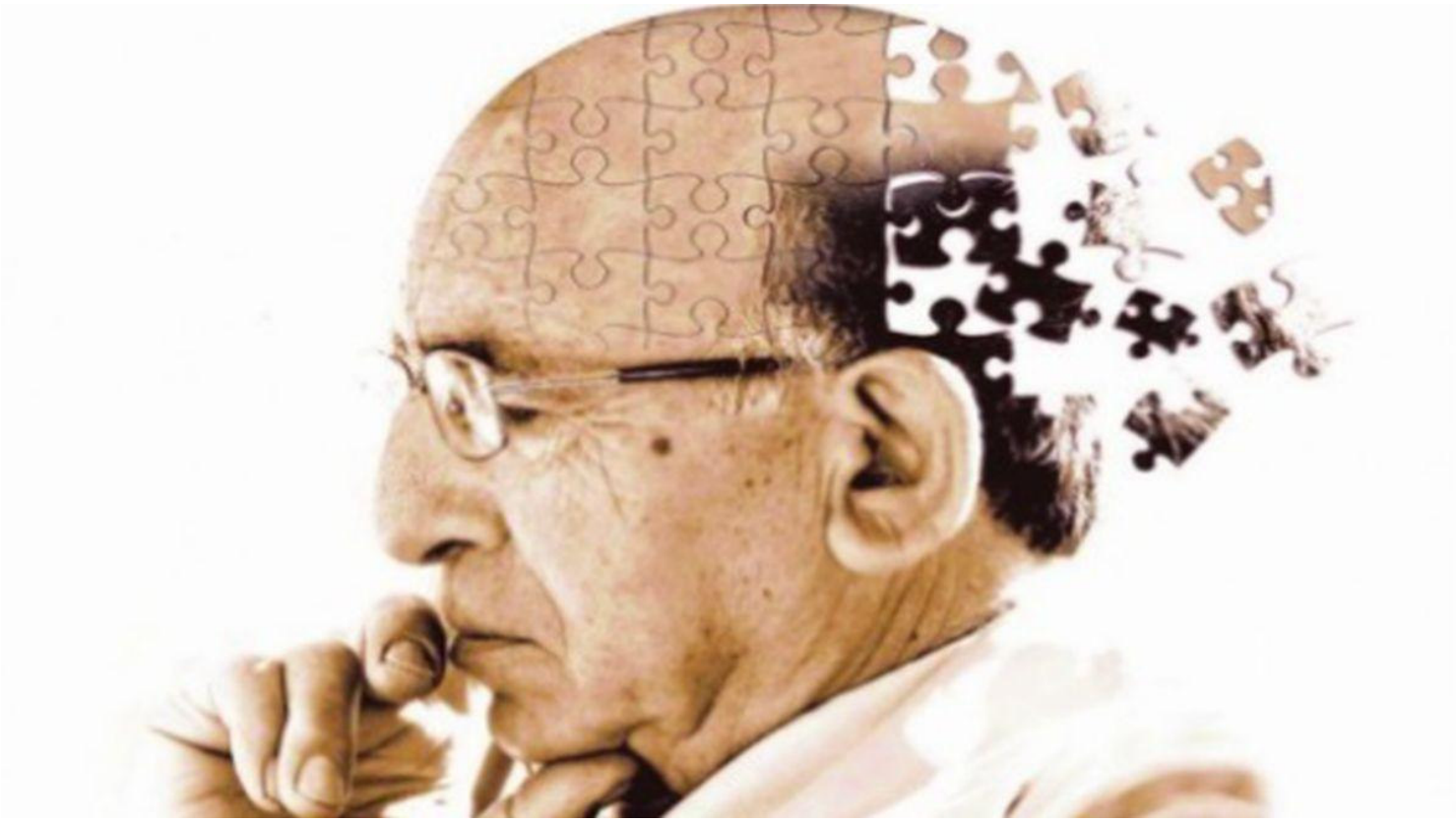
Rapid response needed to tackle Alzheimer's

Vijaykumar Harbishettar | September 21, 2018 5:29 am



Representational Image.

Alzheimer's disease (AD) contributes to about 70 per cent of all types of dementias, for which presently there is no cure. It is a disease of the brain that impairs a person's cognitive abilities such as memory, concentration, orientation, learning, calculation, language, planning, judgement that further impairs ability to perform daily tasks and behaviour. A person with dementia becomes dependant on family members. Since age is a major risk factor the number of people with this condition is going to rise. One in ten people above the age of 65 has this disease.

Rising life expectancy possibly due to improvement in health care, with elimination of several infectious diseases means the proportion of elderly in our country has risen from 5.6 per cent in 1961 to 8.6 per cent in 2011 census and projected to be 20 per cent in the year 2050. According to a Dementia India Report in 2010, there were estimated 3.7 million people with dementia. This number is expected to double by 2030.

According to estimates by the World Health Organisation (WHO), there are about 50 million people with dementia globally, and every year 10 million new cases are added. The cost of supporting and caring for persons with dementia worldwide is projected to increase to $2 trillion. WHO recently declared dementia as a global health priority, and the main goal of its Global Action plan is to improve quality of lives of persons and family of persons with dementia and also to reduce impact on communities and countries. In response to this call by the WHO, the Union Health Minister announced in the recently concluded International Dementia Summit at Bangalore that a National Dementia Strategy for India will soon be prepared and implemented.

Ageing is associated with several ailments, of which mobility difficulties and visual impairment are common disabilities as per 2011 census. They could also have hearing difficulties and joint pains. Many older adults might be taking numerous medications for Heart disease, Kidney failure, Hypertension, Diabetes and some may have had surgeries also.

Frequent trips to hospitals, diagnostic centres and pharmacy are common. There could be slowness in mobility, thinking and responding, so they are dependent on transport, spouse or children to accompany them. Loss of loved ones or near ones or their contemporaries may create fear of coming to the end of their own lives.

Changing family system may lead to reduced support causing social isolation. Some could have migrated to new neighbourhoods post-retirement. Their educated children may have migrated abroad or to metro cities looking for opportunities. Also, the spouse usually is of similar age with similar ailments. Against the backdrop of such complexities, some people develop decline in cognitive abilities including memory function, which may be early noticeable sign of dementia.

Alois Alzheimer in the early 20th century was the first to describe findings after studying smaller units of brain from a diseased person under a microscope. He described senile plaques and neurofibrillary tangles, in other words abnormal proteins, that clumped, then deposited, which the brain could not get rid of. Normal brain has numerous nerve cells that connect with one another and these connections are called synapses, through which information flows. Beta amyloid protein and abnormally formed protein and in excess then clumps together to get deposited between nerve cells and are termed plaques.

Then there is Tau protein inside nerve cells that becomes defective to accumulate inside the cells. Eventually the presence of plaques between the cells and tangles formed from Tau proteins inside the cells disrupt networks by disconnecting them and kill the brain cells, which lead to wider loss of structure resulting in the shrinkage of the area of the brain affected by these proteins. Abnormal shrinkage in areas of brain may be noticeable in scans. Normally the body would get rid of abnormal proteins, but these proteins are defective and unregulated.

Scientists believe that these changes may occur a decade earlier to the appearance of noticeable changes in the memory or behaviour of a person. Recent work on developing antibody that is thought to bind to Beta amyloid proteins at the same activating immune mediated cells to remove the toxic cells or even possibly make the clumps soluble so as to avoid or reduce the amyloid load has unfortunately not yielded required results in clinical trials.

In persons with Alzheimer's disease, typically the first thing family members – either spouse or adult children – notice is forgetfulness about short-term events such as what happened or what they ate in the morning or yesterday or events from the past week, with intact long-term memory. This correlates with abnormal protein accumulation in the lower portion of the brain called temporal lobes, inner areas, or the hippocampus to be precise. The new learning gets affected and causes the memory loss to short-term events. These proteins then spread to different areas of the brain, with more areas getting affected correlating with loss of cognitive skills.

When the language area is affected, speech and communication become difficult. Later, when the front of the brain is affected, there is disruption in social skills, thinking, problem-solving, planning and behaviour. When the protein deposition is in the part of brain where emotions such as happiness, sadness or anger are located, the person's emotional regulation gets affected. Similarly when upper portion of brain is involved, the ability to do tasks will get affected. These changes happen gradually leading to steady and gradual decline.

Names of familiar people will get forgotten, people forget their way around, days, dates, season, year, festivals, anniversaries and many start to slow down in movement along with thinking. They believe someone is stealing because of memory loss of where they kept their things. Reduced emotional reaction and motivation called apathy causes more stress in the immediate caregiver, usually spouse or adult children. Persons with severe dementia may display behavioural problems, becoming agitated or hyperactive. Some may act out on their misperception or misinterpretation.

Inability to communicate pain or to empty bladder or not able to empty bowels, can lead to aggression and cause caregiver's stress. Gradually they forget to manage their personal hygiene, needing prompts and start to require partial to full assistance in brushing teeth, washing, bathing, combing, dressing or undressing and eating.

The needs of persons with AD mainly include dignified life, free from discomfort or pain, support, caregiving in the areas of deficit, reducing disability and delaying progression of the illness. The care should include assisting the person to manage daily activities, financial aspects, and support to reduce the caregiver's burden. It is important to work with carers. Memory tests suited to our culture, language, literacy level are being developed and validated. Screening tools are also being developed to assist the physicians or family members to identify the illness early so to seek specialist consultation for early diagnosis and developing treatment plans.

The stages in order include mild cognitive impairment, mild AD, moderate AD and severe AD, with behavioural problems. There is a need for preventive work, as risk factors such as diabetes, hypertension, obesity, loneliness, deafness are already known. Regular interactions or discussions can stimulate brain and so help preserve functioning of particular brain areas; this may possibly delay process of AD.

More senior citizen forums and day centres to reduce loneliness are the need of the hour. There is a need for repeated reorientation and cognitive retraining, which is an exercise for the brain to possibly enhance network connections further. They can have memory aids at home, such as large calendars, digital clocks and writing in a diary rather than relying on memory.

They can perform cognitive-related tasks such as crosswords, reading stories, getting involved in healthy debate with friends or spend time with grandchildren teaching them. Occupying self in feasible hobbies is healthy. Learning and practising Yoga that also includes meditation, has been shown to reduce the effect of stress on individuals, and this may even slow down degenerative process. Some may require correction to enhance hearing ability.

A small study by a NIMHANS team, in persons with mild memory impairment found yoga as therapy improved their quality of sleep and quality of life. Some individuals may enjoy networking through online social media. If there are early signs, they should seek early consultation with a Specialist Psychiatrist, for early intervention, to discuss medication and psychosocial care plan that is more individualised. Structured day activities, practising yoga, and enhancing social life, are the best possible health promotion strategies to reduce risk.

Pre-retirement workshop aimed to help plan busier post-retirement life and practising it to engage in some form of activity, either employment or as a hobby, is healthier. Medications to slow down the process can offer some benefit. Though there is not much role for medications, occasionally a psychiatrist may use medication that reduce abnormal experiences or reduce restlessness or restore adequate sleep time for short period of time.

The care requires holistic approach that requires a team with Geriatric Medicine, Family Physicians, Neurologists, Neuropsychologists, Speech Pathologists, Audiologists and Social workers to work in partnership with the caregiving family member. Communities need to be sensitised to offer support and help in creating dementia-friendly neighbourhood. At the least, people could take a pledge to help to find their way to return home, help to cross the road and offer to help when a person with AD is missing.

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