OBJECTIVES OF THE PRESENT WORK

Alzheimer’s disease (AD) and other dementias are already a major public health problem among the elderly in industrialized countries. These dementias could also have a devastating impact on developing countries, whose populations are aging the most rapidly; by the year 2020, approximately 70% of the world’s population aged ≥60 will be located in developing countries, with 14.2% in India.47

AD and other dementias is increasing every year because of the steady growth in the older population and stable increment in life expectancy and it is expected to increase two-fold by 2030 and three-fold by 2050. Data suggests that 24.3 million people have dementia today, with 4.6 million new cases of dementia every year (one new case every 7 seconds). The numbers of people affected will double every 20 years to 81.1 million by 2040. Most people with dementia live in developing countries (60% in 2001, rising to 71% by 2040). Rates of increase are not uniform; numbers in developed countries are forecast to increase by 100% between 2001 and 2040, but by more than 300% in India, China, and their south Asian and western Pacific neighbours.48

Epidemiological studies of Indian population reveal that dementia is largely a hidden problem in our country. Persons above 40 years of age show 0.43% prevalence where as those aged above 65 years show 2.44% prevalence.49 The causes for dementia may be due to AD (50 to 70%), blood vessel disease (20 to 30%) or by other nervous disorders. Approximately over 10 million people around the world are suffering from Alzheimer’s disease and the severity of it increases with increase in age.50

Studies in high income countries show that only one-fifth to one-half of cases of dementia are routinely recognised and documented in primary care. This ‘treatment gap’ is much greater in low and middle income countries, with one study in India suggesting 90% remain unidentified Scientists are developing and testing new drugs that may slow or stop the relentless progression of the disease. Scaling up the coverage of existing evidence-based treatments, particularly for those in the early stages of the disease, will make health systems better prepared to provide new, more effective treatments and diagnostic technologies, as they become available.
Nootropic agents such as piracetam, pramiracetam, aniracetam and choline esterase inhibitors like Donepezil are presently used for improving memory, mood and behavior. Allopathic psychoactive drugs have been the main stay of treating mental illness in India and worldwide. Some nootropic agents (Piracetam) are widely used but the resulting chemophobia associated with them and other similar agents has made their use limited.²

During last few years there has been increase in usage of alternative medicines by the patients for such ailments, many herbal medicines have been accepted in our country for treating anxiety disorders and cognitive dysfunctions.⁵¹,⁵² The interest of CNS-active herbal medicinal products originated from opioid alkaloids. Anticholinesterase agents such as physostigmine from Physostigma venosum have shown significant activity on the CNS.

Recent Knowledge about the efficacy and limitations of the antide mentive drugs memantine and cholinesterase inhibitors (ChEIs) in different stages of AD is further expanding, prediction treatment with ChEI outcome in the individual patient remain unsolved issues. There is an urgent need for more effective treatment options for cognitive symptoms and behavioural and psychological symptoms of dementia (BPSD) in AD and for disease-modifying drugs to stop the underlying neurodegenerative process. Recently published new research criteria for the diagnosis of AD, predementia stages and include biomarkers related to the underlying cerebral AD pathology. In future studies, these criteria will hopefully facilitate the identification of effective drugs in early AD stages.⁵³

According to literature review essential oils of Cymbopogon Citratus or Andropogon Citratus and catnip (Nepea Cataria) claimed for different pharmacological activities like, anti oxidant activity, anti inflammatory activity, anti microbial activity, anxiolytic, enhancement of brain neurotransmitters, anti-depressant activity. The plants are native herb from India and are cultivated in other tropical and subtropical countries.

Establishing whether or not therapeutic effects of both herbs are beneficial to patients requires research and generation of scientific evidence. There is a need for continued efforts that focuses on pre-clinical studies involving animal models. So the present study is an attempt to establish the scientific data of these plants as common alternative for treat AD which affects neurotransmission related to behaviour and memory dysfunction.