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Review on: Epidemiology of Familial Prospect of Alzheimer's disease on its prevalence rate on Indian population in future

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ABSTRACT

Alzheimer and Dementia were denoted as continuous decline of Brain functions. It particularly affects those who are in the age between 65 and more. The decline of brain functions cause sudden decline of memory Power, thought Process, using language skill and other learning capability. Proper treatment methods are unavailable for Alzheimer, but with certain medication the deterioration may be delayed. The 2011 population censuses reads that there are 104 millions of old people and 53 million are female and 51 million are males. Between 1961 and 2011, the elderly population has increased extensively. The reason for this situation were continuously decreasing fertility rate and reduction in the mortality rate and finally due to development of health care system in India. The Population change leads to the change of fertility rate and mortality rate provide bulge in elderly generation as compared to younger ones. In India, this is very common in rural and urban areas. In State level data of elderly population kerala (12.6%), Goa (11.2%) and Tamilnadu (10.4%) takes first, second and third respectively. The simple reason was the good healthcare system available in the above said states. The Percentage of Alzheimer affected elders are anticipated from 8% to 19% in 2050. Certainly, therefore young India today will turn in to a rapidly ageing India in the coming decades.

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GLOBAL SCENARIO OF ALZHEIMER

In 2008, the World Health Organisation (WHO) declared that the Alzheimer in dementia has given prime concern in Mental Health. The sudden rise in the affected elderly population in developing coun-

tries has been the cause of studies conducted to estimate the Alzheimer patients by Gap Action Programme, Nigeria, Canada (Zhang *et al.*, 1990) and urban study in Shanghai, China (Chandra *et al.*, 1998; Elderly in India-profile and programmes, 2016). The net amount of individuals was claimed 35.6 millions and it is expected to increase to 65.7 million by coming 2030 and 115.4 million by coming 2050. So every 4 second 1 new case of Alzheimer patient added it leads to 7.7 million per year (India ageing report, 2017; Chandra and Pandav, 1998).

Epidemiological Problem of Healthcare system in nuclear families of India

India, is known for its established familial system all over the world. The early stages of Alzheimers is underestimated in the families. It is detected only in the later stages. In Indian culture, elders are being most respected than in western countries. The fam-

ily members do not force to give medical care or food when the elders refuse to take (Hendrie, 1997). These reasons may cause Alzheimer to become an epidemic in India in the ensuing years

India has poor awareness and surveys for Alzheimer like neurodegenerative disease due to diverse culture among the various states (National Family Health Survey, 2015). So this article is an attempt to explore and create awareness about epidemiological problem of health care system in nuclear families and also providing economic and other support for the affected families by central and state governments of India.

Prevalence rate of Alzheimer's in India

The dementia of elderly is noted as big issue in the healthcare system. Extending various statistical data reveals that prevalence rate were increasing year by year. The united states and Europe statistical data clearly shows Alzheimer prevalence rate particularly of the age above 65 were 3.6% (Hendrie et al., 1993). In India, this is estimated to double every five years. In future India is predicted to be a partial domicile for Alzheimer affected people. In the year 2025, India and China are predicted to have about 59% of old people, which is a major proportion in the world (NIH guide to grants and contracts, 1988; Chandra and Pandav, 1998; Ganguli et al., 1995).

According to the limited studies conducted by (NIH guide to grants and contracts, 1988), countries like India and China were not giving importance to Alzheimer, when compared with the rest of the world. The importance given by India for Alzheimer and other neurodegenerative diseases as a public health system were questionable. Some studies conducted for Alzheimer over the elderly in a rural population in north India conclude that which was rare or unrecognized to them. (Shankar et al., 1988) viewed from national institute of mental health and neuroscience shows the person age of 73 affected Alzheimer identified by autopsy. (Satishchandra et al., 1997) shows histological confirmation of Alzheimer for women with age of 47. (Barodawala and Ghadi, 1992) reveals that typical Alzheimer Pathology were present in 100 patients at the age of 60 + from Mumbai. In that study the sample was small and biased.

As per Wadia (Wadia, 1992) evaluate few systematic studies with adequate size and give rapid prevalence in India; also he noted variations in different states with in India (Belle et al., 1996). In southern states Tamilnadu (Rajkumar and Kumar, 1996) and Kerala (Shaji et al., 1996). Prevalence studies shows in rural areas (Rajkumar et al., 1997) and one was

conducted in an urban area (Rajkumar and Kumar, 1996) clearly reported more total and age related prevalence rates than area of northern India. All of these southern states data clearly shows literacy rate plays some role in prevalence rate of neurodegenerative disease.

Some studies reveals certain extent think about methodological variations (Shaji et al., 1996; Razdan et al., 1994; Hendrie et al., 1995).

Regional Variations of dementia

India with different religion, language, culture, education, dietary nature, health practices, life expectancy leads to variations in the risk of Alzheimer disease (Ganguli et al., 1996). So the need of multilevel survey studies with good methodology were essential to estimate the affected elderly with Alzheimer disease. More number of patients were seen in Delhi and most metropolitan cities. ("Population" Government of India, 2011) Southern states like Tamilnadu, Kerala also with more prevalence rate. Literacy also plays important role for dementia.

Life expectancy of Alzheimer's Patients in India

Life expectancy of Indians was lower than west countries. Various states like Bihar, Meghalaya, Mathyapradesh, west Bengal have shorter life period than other states. Neurodegenerative disease were more common in age more than 50. So extended life expectancy in developed states like Tamilnadu, Kerala, Karnataka have more Public health and Socio economical burden of Alzheimer. Due to the unawareness, Socio economical Problem, Poor sanitization, Low literacy, (Katzman, 1993) Regional Variations was critical familial situation leads to shorter the life Period of Alzheimer Patients in India (National Family Health Survey, 2015).

Protective factors of Alzheimer's disease in India

Currently now Indians focused on diet, Co morbid, acute and chronic disorders, Other Infectious disease except Neuropsychological disease like Neurodegenerative Problems. It might be noted that Alzheimer Prevalence rate more common in Illiterate Population (Das et al., 2012) Some studies shows low dementia Prevalence in a rural north Indian Population. (Purohit et al., 2011) From all these information clearly shows there are regional variations in Prevalence with in India. India known to be a well structural familial system So by Providing awareness to this family members and caregivers will be change the focus of Government and nongovernmental agencies to Alzheimer disease, improving literacy rate and economical growth of certain regions can Protect Alzheimer Prevalence in

India.

Mortality Rate associated with Alzheimer's

Alzheimer's decrease life Period of elderly up to 71 Years with individual variability. Finding death due to Alzheimer's disease were unpredictable Because most of the time Alzheimer's disease not considered a cause of death. But the mortality rate slightly increasing now and which is expected higher in upcoming years. India will be the highest Population than the world by 2050 So Alzheimer disease mortality also expected high in future ([World Alzheimer Report, 2009](#)).

Economic impact: The cost for therapy of Alzheimer

Alzheimer's disease treatment always very expensive. The financial burden of Alzheimer's were enormous to families and caregivers ([World Alzheimer Report, 2009](#)). They have to spend more time with these Patients. So their quality of life also affected. In well-developed countries like United states the Alzheimer's Patient informal care cost is 45% and formal social care cost is 40% But the direct medical cost only 15% whereas developing countries allotted very low cost this Patient care.

India, growing GDP 7% But the contribution of money to the Health care sector was only 2.3% but in united states 17% of money from GDP allotted for health care sector. So total burden of treatment cost goes to families and caregivers. This will be critical situation for inventing new diagnostic and treatment methods for the Alzheimer. WHO report (2012) says "Dementia a health Priority" ([WHO , 2008](#); [Jotheeswaran et al., 2010](#); [Gross et al., 2012](#))

CONCLUSIONS

India lacks more information about the incidence of Alzheimer's which we can prevent by various risk factors like hypertension, diabetes, Smoking and dyslipidemia This article Focus that epidemiological data clearly shows, increasing elderly population rate in the upcoming years, In India the prevalence of AD and other dementias will be increasing. It leads to Indian families and care givers have to face Major socio economical crisis. And also critical issue in our Health care system. So India needs immediate attention to this Alzheimer and other age related neurodegenerative diseases.

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