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Changing Demographics & Dementia: A Reflection on the Challenges Ahead for India

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Abstract

India being the second most populous country in the globe is expected to surpass China by 2022 (United Nations Report). The demographic structure of India is changing at a rapid pace with an increase the proportion of old age population (Subaiya, 2011). The elders are socially deprived and have little or no access to Social support, security and insurance. The old-age problems are not only associated with deteriorating physical health but also affects their mental well-being. However, the ageing literature is closely associated with physical health problems often ignoring the mental issues owing to social stigma attached with it. The present research is an attempt to fill this gap, with a particular focus on Dementia, which is associated with impairment of effective functioning of brain. The study assesses the changing demographic trends and the associated constraints pertaining to the delivery of health care services in India. This study will highlight inter an intra socio-economic differential in health expenditure. The data for the above study is sourced from secondary data sources that include NSSO 71st Round, Census 2011, CEIS, NFHS, etc. and Dementia is studied through various secondary reports. The authors adopt structured equation model and margins plot to measure the differences in healthcare expenditure between different social groups. The study will be beneficial for the policymakers to identify the challenges that need to be addressed in the near future for delivering key health services.

Keywords: Demographic transition; Epidemiological transition; Dementia; Insurance; Health expenditure.

“Aging is not lost youth but a new stage of opportunity and strength”

~Betty Friedan

The integration of Indian economy in the world is stronger than ever before and combined with its current demographic dividend, India is sure to witness an ever-increasing economic growth rate. However, the era of demographic dividend will end soon and the generations of baby boom will soon join the cohort of elderlies and the generation which was an active contributor of economic progress will be the largest demander of health and social security schemes in next few years.

With an increase in medical and clinical research combined with other prerequisites the death rates have come down substantially across the globe and thus demographic ageing is a global phenomenon and picking up momentum in all parts of the world. Dr. Margaret Chan, Director-General of WHO asserts that “Today, most people, even in the poorest countries, are living longer lives,” (WHO). However, the elderlies particularly in developing and poorer nations are mostly deprived of basic amenities and have little or no access to Social support, security and insurance making them physically vulnerable and economically dependent on their heirs. The situation is substandard for women in these countries since they have higher life expectancy but less social security and economic independency relative to males.

Along with the changing time and the changing lifestyle of people, the Earth has picked up a speed at which it is changing too. With this, resources are depleting at a high speed and our ecosystem and the environment are also deteriorating at a rapid rate. With these alterations, there's a continuous transition in the health patterns as well as in the diseases from which people suffer. The new age diseases are perfectly correlated with increasing mental exercise and declining physical activities leading to excessive pressure of mental problems like Depression, stress, Dementia etc. However, owing to stringent social stigma attached to mental illness, these diseases are often unreported or underreported and many a times are ignored to be considered as a serious ailment. Thus diseases associated with mental ability are not extensively integrated in the public policy domain despite their high prevalence rate.

From being one of the most advanced empires during Indus valley civilizations to being the first nation to realize the significance of primary healthcare, India has always excelled in bringing transformations and moving towards a new milestone. Proving to be a cradle to some of the most intellectual people, India has been fetching great minds since eternity whose cumulative knowledge has helped in evolving the healthcare system which we witness in the present day. However, given the large population of this nation, providing basic health services, free of cost, seems to be a mirage. But with the

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prevailing poverty in the nation, primary healthcare is as necessary as having food, clothing or a shelter to live under as Yusuf Hamied has asserted while referring to India signing up for TRIPS, Hamied stated that “With a population of 1.3 billion, India cant afford a monopoly in healthcare. Monopolies lead to higher prices and we cant allow them in a country like India with so much poverty and misery.” Thus providing affordable primary healthcare is not a luxury, but rather, a necessity in a diverse nation like India.

Unlike other nations, India has made a distinction by focusing on the environment of the problem and not just the physical sickness of the patient. Way of treating sick and unwell people has evolved from the use voodoo and spirits to the stars and gods to the modern technology and equipments. Medicines have, as well, been evolved from the use of plants and herbs to the problem-specific and prescribed medicines. This evolution is not just restricted to medicines and the means of treating a problem, but also to the diseases from which we suffer.

In lieu of the demographic change combined with epidemiological transition or shift in the composition of diseases the policy paradigm should involve effective interventions to ensure that longevity in the life is accompanied with good health and assurance of dignified lives to the elderlies. In turn it will ensure not only betterment of an individual but for the society as a whole. (WHO). This is particularly important for developing and growing economies like India where the demographic transition has speeded up but the reach of public health infrastructure is still on a marginal stage owing to the three major constraints in India namely, “shortage of doctors across India”, “Poor medical infrastructure” and “Poor health insurance resulting in a higher share of private expenditures” that erodes the health care system in Nadkarni [1].

Research Objectives

In an era where major challenges lie in front of India to serve the growing needs for healthcare services arising from demographic transition, the present research aims to assess the changing demographic trends and analyze the availability, requirement and constraints pertaining to the delivery of health care services in India. This study further reflects upon inter and intra socioeconomic differentials across various groups in receiving the free medical services. The present research would highlight major reasons for increasing share of mental diseases in total disease burden with a specific focus on Dementia which despite being a big shark is yet unnoticed by the public.

Literature Review

There exists a wide range of literature validating the indispensable link between demographic transition and epidemiological transition [2]. asserted that the pattern of demographic structure is determined not only by social, economic and demographic factors but also by epidemiologic factors, which predicts the long-run effects of changing disease patterns on the health of the population. [2]. Omrans ideas were opposed by Mackenbach [3] on grounds of the underlying assumption of treating all the nations equally and assuming uniform transition in all the countries by taking only western countries in the sample [3]. Omran [4] has further strengthened his arguments on this link by asserting that changes in mortality pattern widens the gap between birth and death rates owing to the impact that epidemiological transition has on fertility rate, sex ratios, dependency ratio etc. and thus changes in epidemiological structure alters the composition of population [4].

The change is not constrained to age-structure but also there are highly prevalent changes in the lifestyle which involves the vices of less physical activity, less social inclusion, more mental and mechanised work, unhealthy eating habits, etc. Further, over the decades the world has experienced major depletion of its natural resources, ecosystem and environment which has wide ranging repercussions on ones health and

wellbeing. Climate changes and increased urbanization accompanied with changes in lifestyle and human behaviour has resulted in continuous transitions in disease patterns [5].

Frenk J et.al. [6] has identified different stages of epidemiological transition for developing nations. The authors asserted unlike in most developed nations where in the first stage there is a shift from infectious to non-communicable diseases as a dominant cause of death, developing countries face both pre-and-post transition phase diseases which often reoccur in the second stage. The authors have highlighted the idea of epidemiological polarization i.e. the differences in disease pattern are observable between different social groups or different geographical areas within the same country [6].

One of the examples where epidemiological transition can easily be seen is with the case of dementia. Dementia is a disease where mental ability of a person is hindered to such an extent that his/her daily life gets interfered due to this. In a study by Suh Shah [7], epidemiological transition was found in the diseases like Dementia and Alzheimer and it was found that Alzheimers disease (AD) is more prevalent than Vascular Dementia (VaD) in Korea. Similar results were found in the nations like Japan, China, America and Europe, however contrary to other nation it was found that both AD as well as VaD prevailed equally in case of India [7].

Rizzi et.al. [8] concluded from their study that the dementia patients are increasing at a rapid rate. The authors further asserted that though the cases are increasing in both developed as well as developing nations but developed countries, like America show more cases of Dementia and Alzheimers disease than the less developed countries However, the reason behind this could be that least developed nations do not have that updated technology to properly diagnose such diseases and also, theres no methodological uniformity in these nations [8].

However, irrespective of lag in identification of the disease it can be safely concluded that with the ever-increasing population worldwide, the number of people suffering from these diseases is escalating as well. Prince et. al [9] asserted that in 2010, an estimate of 35.6 million people was found to be enduring Dementia with the number getting doubled almost every 20 years [10].

With an increasing focus upon mental health, the research on issues pertaining to mental illness has increased in developing nations. Recently, 19th national conference of ARDISI (Alzheimers and Related Disorders Society of India) was held in Mumbai, India. It implored to give more attention to these diseases as it was highlighted that by 2020, Dementia cases in India will rise to about 7 million in coming years and shockingly, it will further rise to 13-14 million by the end of the year 2050. In the conference, major focus was put on Dementia and to increase the awareness level among people about it. This increase in research can also be attributed to the estimates of WHO (World Health Organisation), according to which, in developing nations like India, the population of aged people is increasing and with this increase in their population, soon dementia will become an epidemic among old people by 2025. An urgency was felt when it was realised that estimated annual numbers of cases of Dementia are the highest in Asian countries and in low income countries, such as India, the most stricken age group from Dementia will be the youngsters of the country. (WHO)

With different perspectives and approach towards these diseases, people stand firm in carrying diverse stance from one another. Seeking a single solution to the problem of Dementia still carries a big question mark along with it. One of the suggestive measures from amongst millions of poles apart viewpoints is from Wimo et.al. [9] who in their study has asserted that world-wide cost of dementia will increase as the gap between diagnosis and treatment widens thus investing more in research and cost-effective approaches in the present is the only

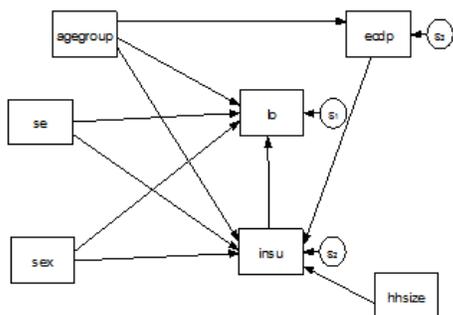


solution to safeguard our coming progeny from the perilous consequences of it [9].

With so many views and studies of different researchers, the studies on India have been increasing as well, despite the fact that the list of cases of these diseases particularly diagnosed cases is not that huge as compared to developed nations. It is also asserted that in a few years, the cases of Dementia and other mental problems will be at least two folded. Therefore, the need was realized to do more research on these diseases to protect future generation and to make them aware as to how to save themselves from suffering from it.

Significance of the Study: Indian constitution regards "Health as a state subject" and thus there are persistent variations in the health outcomes across different states in India. Differences in interventions and other background social demographic differentials; literacy rate for instance are accounting for such differences. While states like Tamil Nadu, Kerala have progressed in both health and education others like Bihar, Uttar Pradesh have left behind. Although the concept of "Universal Health Coverage" has been articulated in the Twelfth Five Year Plan but in light of changing demographics accompanied by changes in the social, cultural and economic institutions, India needs to increase the momentum in coming decades to effectively provide health goods at affordable prices accounting and controlling for disparities and inequities persistent in India [11]. The study would be of great relevance to policymakers since it will unveil the current potential and challenges ahead on the present healthcare infrastructure to cater the growing needs of changing demographics.

Data and Methods: The data for the above study is sourced from the large scale surveys including NSSO 71st Round, Census 2011, CEIC, etc. The authors adopt structured equation model and margins plot to measure the differences in healthcare expenditure across different social groups and mediating factors. The structured equation model (SEM) used to highlight the differentials in medical expenditure incurred by different socio-economic groups and interaction factor is as follows:



Description of Variables

lo: Log of (total medical expenditure-amount reimbursed through insurance)

- age group = 0, if age <=59 = 1, if age >60
ecd p = 0, if economically independent = 1, if economically dependent
se = 0, if sector is rural = 1, if sector is urban
sex = 0, if male = 1, if female
Insu = 0, if insured = 1, otherwise
Hh size = size of the household

The SEM has been used to take account of interactions and multiple relations present in the model. The exogenous independent variables are converted into dichotomous variable. Further, the paper reviews Dementia in the light of existing research and then will describe the seriousness of the issues and suggest relevant policy measures to deal with Dementia. Dementia will be studied through various secondary reports.

The study henceforth is divided into three sections. First section cover the dynamics of demographic transition, second section studies the inter and intra group differentials in healthcare expenditure and the last section lays down the factors responsible for epidemiological transition with a specific focus on Dementia.

Dynamics of Demographic Transition

The demographic structure of India is changing at a rapid pace with an increase in median age from 20 in 1980 to slightly less than 25 in present and is expected to rise further to 29 by the year 2020, and the proportion of old age population (60 and above) is expected to rise substantially from 7% in 2005 to 20% in 2050 [12]. Figure 1 shows the trends in Birth rates and death rates across diverse group of Indian states. A close examination of the figure clearly depicts that states belonging to Empowered Action Groups (EAG) started with very high figures of birth and death rates and despite a noticeable decline in past two decades. Contrarily Southern States has started with low birth rate and relatively high death rates as compared to Union Territories (UTs), North-Eastern States (NEs) and other states of India. Thus the pace of demographic transition varies sharply across different state groups.

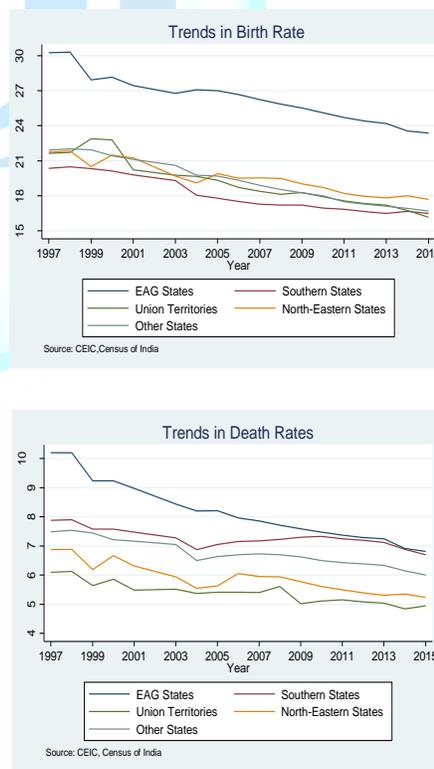


Figure 1: Trends in Birth and Death rates.



The birth rates have declined considerably but death rates have remained relatively high. Overall India states are witnessing a demographic transition by moving from a phase of high birth and death rates to declining birth and death rates. The figure clearly implies that India is currently moving from middle transitional phase to late transitional phase where birth rates are continuously declining, however decline in death rates have been slowed down [13].

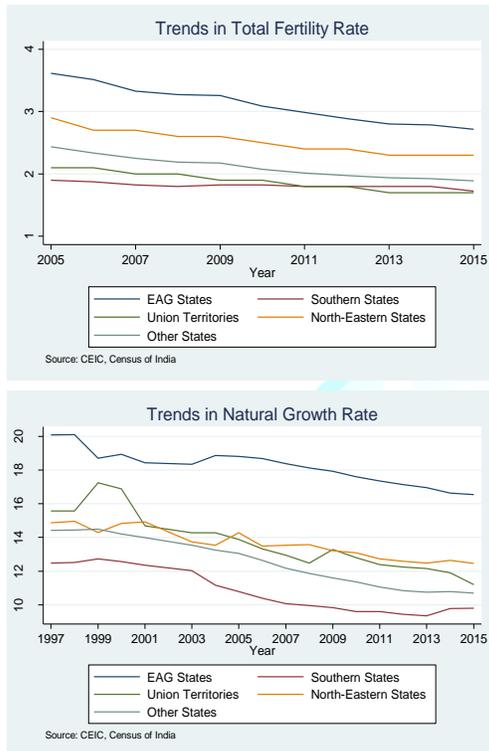
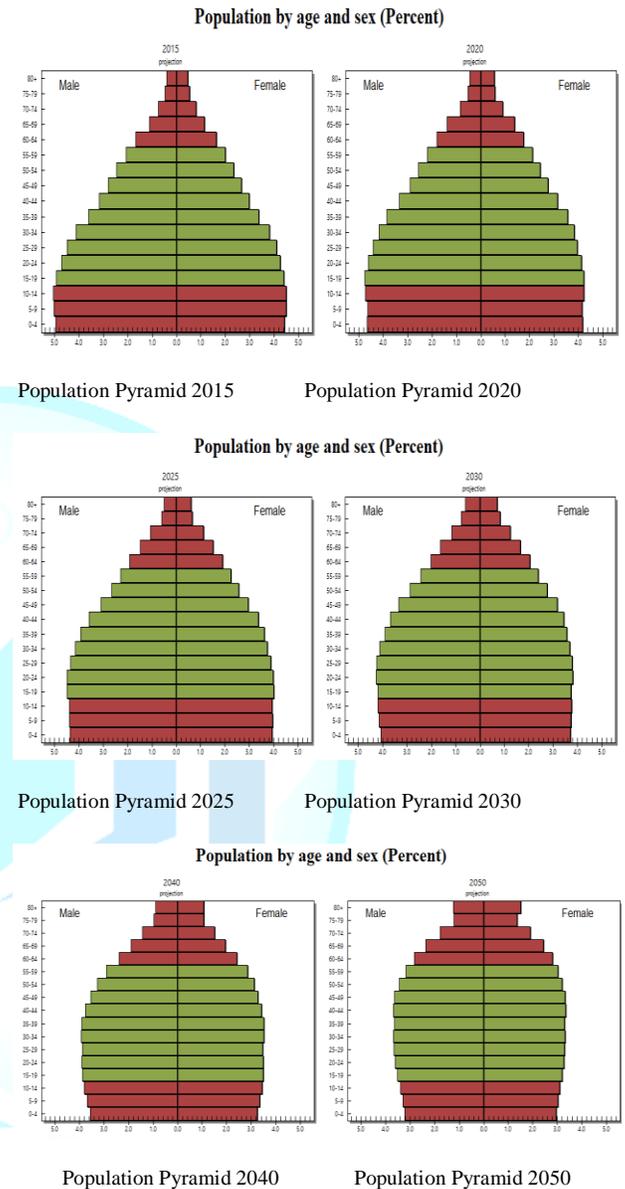


Figure 2: Trends in total Fertility Rate and Natural growth Rate.

The trends in fertility rate and natural growth rate depicted in Figure 3 validate the fast rates of decline in birth rates across all state groups. It is noteworthy to mention that the fertility rate in Southern states and UTs of India is falling below the normal replacement rate of 2.1 thus clearly indicating that in near future there will be less proportion of population in the 0-14 age group. This phase of demographic transition has yielded a large proportion of working-age population (approximately 60 percent of total population, as per Census 2011) to India. The current scenario has a potential economic advantage to India as acknowledged by Aiyar and Mody [14]. Demographic dividend in India has a potential to contribute around 2 per cent annually to the GDP for the next twenty years [14].

However, the trend will change very soon in India and the population group who are the major contributors to demographic dividend will soon join the cohorts of elderly population and India will witness a record-high number of elderlies. The share of elderlies in the total population is 8.6 per cent, out of which only 41 per cent are working as per Census 2011. The figures clearly indicate the strength of demand for social goods like health, pension etc. This demand will increase manifolds with changing demographic structure which is more skewed

towards elderly population as depicted in Population Pyramids in Figure 4.



Source: Spectrum Software, v 5.61 (UNAIDS 2015 AIM Projection).

Figure 3: Population Pyramids.

Inter and Intra Group Differentials in Healthcare Expenditure

With an improvement in technology and innovations in medical research, Life Expectancy has increased but the new technology is expensive and is beyond the reach of masses. Although Indian government has strengthen its health infrastructure over the time by making the health care services cashless. Despite that people are incurring high medical costs which vary across different social groups. The differences are not restricted to inter-group but are also prevalent across intra groups.



Standardized Structural	(1)	(2)	(3)
Dependent Variables→ Independent Variables ↓	Log of (medical expenditure-amount reimbursed)	Insured	Economic Dependency
Insured	-0.778*** (0.073)		
Age Group	0.104 (0.075)	-0.028*** (0.004)	0.059* (0.003)
Sector	0.688*** (0.072)	0.135*** (0.035)	
Sex	0.202 (0.145)	-0.014 (0.07)	
HHsize	0.175** (0.007)	-0.028*** (0.004)	
Ecdp		-0.223*** (0.037)	

Standard Errors in parentheses; *** p<0.01, **p<0.05, *p<0.1

Table 1 shows the results of Structured Equation Model. It can be inferred that as we move from 0 to 1 i.e. from younger population to elderlies the probability of being insured gets reduced substantially while medical expenditure rises. The situation is substandard for females who have 1 per cent less changes of being insured and 2 per cent higher medical expenditure than males. People belonging to urban sector, though has approximately 7 per cent higher medical expenditure than their rural counterparts but are highly probable to get insured. Elderlies are more dependent economically than the younger population and also less probable to get insured and given that they are more prone to illness, their medical expenditure is substantially higher and thus elderlies pose potential demand for the social services like pension, insurance, free health etc.

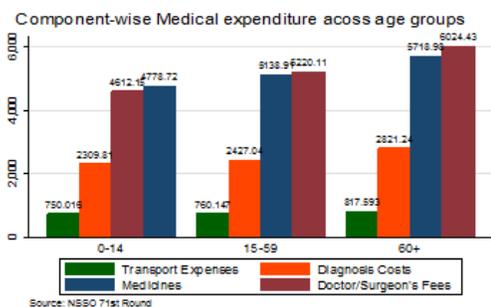


Figure 4: Medical Expenditure across Different Age Groups.

Demographic change is accompanied with changes in the social institutions whereby large number of elderlies are left with little or no social economic or financial security from their heirs. The inadequacy in economic independency is accompanied with high medical costs on all the components as shown in Figure 4.

The situation gets aggravated depending upon ones position in the socio-economic hierarchy. As depicted in Figure 5 elderlies belonging to the age group of 60 + have relatively very high medical expenditure as compared to the other two-age groups; however within the similar age group females have higher medical expenditure as compared to males. One noteworthy observation from the figure is significant differences across sectors. Across all age groups people belonging to urban sector have significantly higher medical expenditure as compared to their rural counterparts. The reason for the same can be ranging from non-availability of proper medical services in rural areas to high prevalence rate of diseases in urban areas owing to rapidly

changing lifestyles making people more and more prone to falling ill both physically and mentally.

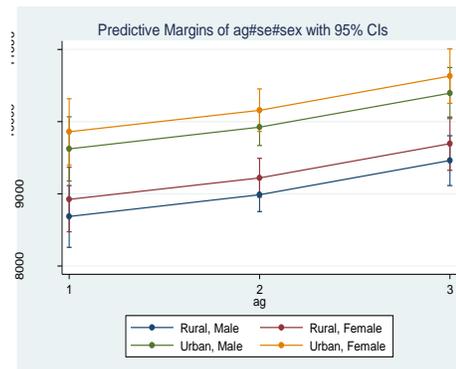


Figure 5: Differences in Medical Expenditure Across Age Group, Sector and Gender.

Epidemiological Transition and Dementia

Demographic change has been accompanied with epidemiological transition a term attributed to shifting patterns of mortality and diseases. Over time the number of deaths ascribed to changing lifestyles (like stress, smoking etc., exposure to artificial substitutes of nature like excessive use of pesticides in agriculture, excessive reliability on medicines) degradation in the environment has increased. The basic question that arises now is what could be the possible reasons behind these transformations. Various authors have highlighted different factors responsible for epidemiological changes, but the most common ones in the medical sciences are as shown in Figure 6.

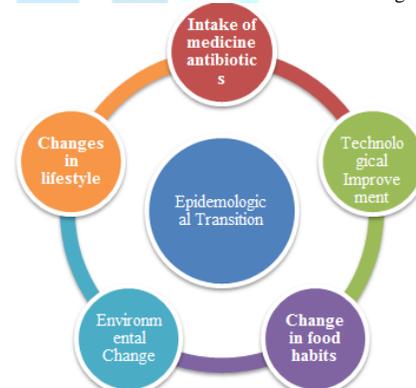


Figure 6: Common Causes of Epidemiological transition.

While evolution is an effect, the cause of this lies in various leaves. One of the thousands of reasons for this alteration is too much dependence upon medicines and antibiotics. It is said that prevention is better than cure and in the race of preventing themselves from any sort of disease, people are becoming over conscious and rely on medicines for even a minor disease. When antibiotics started to become a solution for every problem, it inversely affected the tolerance power of people making them more addictive to medicines, leading to permanent increasing the body temperature of humans. With this new temperature level, our body system starts working to adapt this change, leading to reaching a new level of stability, making us immune to some virus/bacteria while making us prone to others. This change in adaptability causes epidemiological transition. Further, Jones et al. suggests that "medicine struggles to keep up with the changing burden of disease" [15] implying the continuity of transition in disease patterns faster than evolution in medical sciences



Apart from the above, others reasons for epidemiological transition may include changes in lifestyle [16] and food habits or nutrition transition [17], environmental changes, technological improvements and mobility of living beings and non-living beings from one place to another that alters the natural working of biodiversity [18]. All these changes and evolution not only brings instability in the ecosystem but also, hinders the natural working of species for which they were designed. Resultantly, an ordinary allout does no harm to mosquitoes and little cuckoo birds are nowhere to be seen. This has also adversely affected human beings leading to their speed of transformation being much higher than the speed of adaptation. Prime example of this variation in speed is overlooked attention to mental health. Since revolution, the only attention that has been given is on the conventional part of physical health, whilst mental health continues to be ignored. Furthermore, if we look closely, the root cause of all the diseases reflects mental health as it is constantly said that most of our illness is psychological, despite these sayings and evidences, mental health is still aloof from the attention it deserves and still, all the mainstream methods of putting spotlight to only physical health can be seen.

Dementia is one such disease that verifies that its now time to focus more on mental health and not just the physical counterpart of it. Dementia is a disease where-in mental ability of a person is hindered to such an extent that his/her daily life gets interfered. Its a wide term that illustrates an extensive range of symptoms, ranging from communication problems to visual impairment to memory loss. According to medical sciences, Dementia is a result of damage of brain cells which can happen due to any of the factors such as depression, side effects of medicines, excessive consumption of alcohol or smoking, health problems such as thyroid or vitamin deficiencies and early signs of Dementia include short-term memory loss, trouble finding the correct words, mood swings, struggling while completing normal day-to-day tasks, confusion beyond normal and being repetitive.

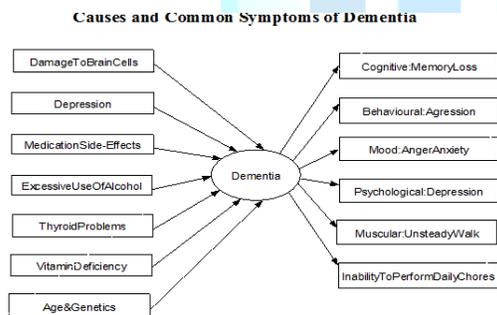


Figure 7: Dementia at a Glance.

Statistically, approximately 46 million people are currently suffering from dementia all over the world, being 4 million in India only. It is also said that every 3 seconds, someone develops dementia around the world. According to World Alzheimer Report, 2015 the numbers of dementia cases worldwide are expected to increase manifolds by 2050 with more than one-fifth of cases occurring in lower-middle income countries, owing to faster rates of increase in aging population as depicted in Figure 8. The lower-middle income countries not only have high number of dementia cases but also are embedded with high-cost health care. Dementia is a proliferating disease estimated to cost US\$ 818 billion worldwide in the year 2015 and the social cost is projected to increase up to US\$ 2 trillion by 2030, such huge costs exceeds the market values of large companies like Apple [19].

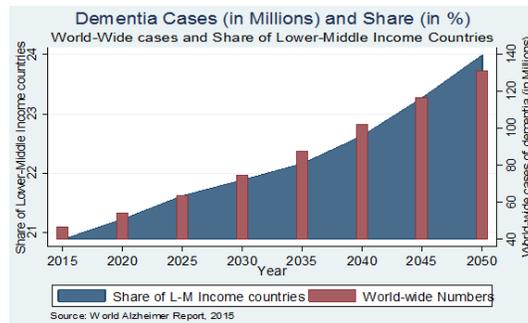


Figure 8: World-Wide cases of Dementia and Share of Lower-Middle Income Countries.

Dementia is not only restricted to developed world but is becoming an increasing concern for the developing nations like India. The burden of Dementia is expected to multiply manifolds in coming years as projected in Dementia India Report, 2010 and depicted in Figure 9 the number of dementia cases will almost double in less than a decade with Uttar Pradesh having the highest number of patients in 2006 and 2011. Similar to differentials in the pace of demographic transition across different groups of Indian states, there are stark variations in the burden of dementia across different state groups as depicted in Figure 10.

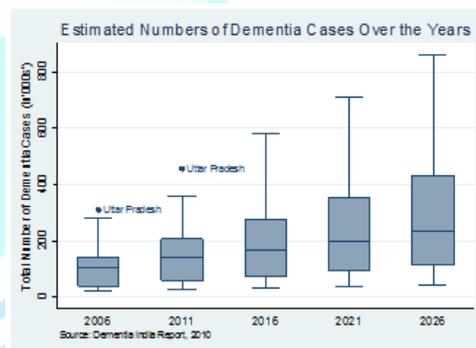


Figure 9: Estimated Number of Dementia Cases (in 000s) in India over the Years.

Figure 10 clearly shows that the southern states that are experiencing fast changes in demographic structure having notably highest estimated numbers of Dementia cases across years. EAG states which started with comparative numbers to other states like Delhi, Punjab, Haryana, etc. are following similar trend as southern countries with regard to the estimated number of dementia cases. North-Eastern states have already started with low numbers are expected to experience a minor increase in the number of Dementia cases. The differences are not restricted to group of states but also vary across age groups as depicted in Figure 11.

Figure 11 asserts that irrespective of state group, the estimated numbers of dementia cases are positively associated with age-group. The numbers shoot-up for the age-group of 80+ and the numbers are very high for Southern states of India.

The states which are blessed with exceptionally well demographic indicators like literacy rate, mortality rate etc. which are relatively very low has highest number of estimated cases of dementia. Southern states were amongst the first few states to recognise the importance of public provision of health services in India. The effects of which are clearly visible in the key health indicators like IMR, MMR etc. However, the present scenario calls for an increased attention on the mental health-



being as a part of public health policy to ensure both the physical as well as mental well-being of the elderly.

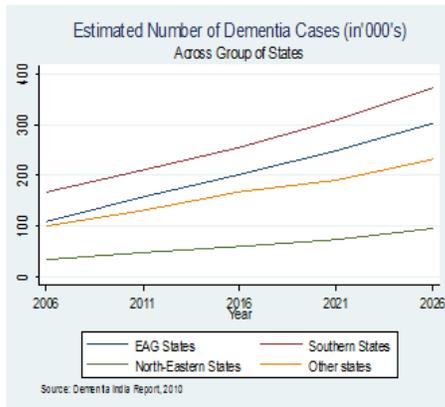


Figure 10: Estimated Number of Dementia Cases (in 000s) across Different India States.

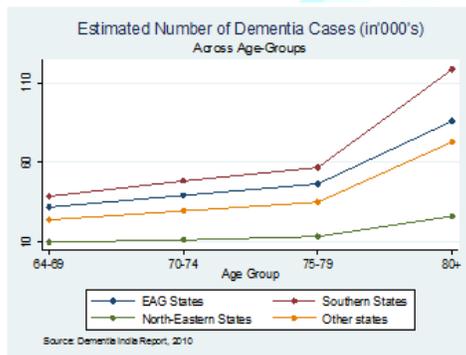


Figure 11: Estimated Number of Dementia Cases (in000s) across age groups.

Discussion, Conclusion and Policy Recommendations

Time has come to show India's strength to the world. Let's recognise our demographic dividend & present image of a Skilled India to the world.
- Narendra Modi

Undoubtedly, India is blessed with the demographic dividend and India is in the path of becoming one of the strongest global economies and in order to achieve the full potential of the large army of labour force it is essential to focus upon labour productivity which is a direct function of one's health [20]. While this phase of Demographic transition has large avenues of economic benefits owing to increased workforce, the situation will change in the coming two decades. There is a continuous decline in both birth and death rates in India and thus in coming twenty years India will have a large pool of elderly and there will be immense pressure on the government to ensure that the longevity in life is accompanied with social security, good health and well-being.

Along with demographic changes India has witnessed changes in the lifestyle and shifts in the composition of food intake which is relatively unhealthy these factors combined with age-specific diseases calls for a transformation in the health care market. The changes have been observed in the social institution as well and breaking-up of Hindu joint family structure and separation of children from parents in flight

of getting good jobs or personal reasons are examples of social change. This change directly affects the mental well-being of elderly. Dementia is one such disease that should be our topmost precedence and requires a lot of consideration since the disease has direct association with the person's ability to perform his day-to-day activity. In a follow up study of 10 years done on Dementia by Mathuranath et al [21], it was found that the cases of these diseases are much higher in Southern India as compared to rural north India. Not only these cases are more than those reported in China but also, they are only marginally lower than those in Western countries [21]. The present research has indicated similar findings that southern states which are relatively more fast-paced in terms of improving literacy and combating mortalities are and in future will be home to highest number of dementia cases. These differences across group of states clearly indicate the need for specific target-oriented health policy that vary across states, but is directly aimed at improving mental health-being.

With so many views and studies of different researchers, the studies on India have been intensifying as well. It is also asserted that in a few years, the cases of Dementia and other mental problems will be more than doubled. Consequently, the need has started to comprehend that more research on these diseases should be carried forward to protect future generation and to make them aware with the means of saving themselves from suffering from it [22]. Dementia is no longer being restricted to old-age but is increasingly prevalent even in youngsters. Keeping the urgency in mind, many organizations have been formed and many help lines are formed to provide aid to people suffering from these diseases or their family members. Various portals have been established to help elderly people to seek treatment by themselves and all these resources, help lines and portals have been segregated as per the age groups and the disease to provide specialized treatment.

However, even after realizing the urgency and despite all these efforts and thorough studies, the resources to treat people suffering from Dementia or Alzheimer's disease are not sufficient in India. Despite the fact that more than 4 million people in India are suffering from some form of Dementia, still the proper treatment and diagnosis is not yet available in the country. Finally, if we see the behavioral pattern, in spite of this disease prevailing at a very high number, the proper awareness is still not there among patients and people and due to lack of proper knowledge, people tend to overlook the symptoms and don't consult or seek a proper treatment. Dementia and other mental illness further remains underreported owing to societal stigma attached to it. Modern technology, change in lifestyle and others, has many repercussions on human health. Dementia is one such repercussion which hinders the normal day-to-day working of a person and might lead to other hazardous diseases like Alzheimer's disease, Jakob's disease etc. With Dementia, come other self-destructive symptoms and activities like taking excessive stress, increasing mental work as compared to physical and being socially isolated that only puts more harm to the person suffering from it and those around him.

Therefore, it can be cured by taking counselling for depression starting from school level and maintaining a balance between mental work load and physical work load. Morning walks, reduction in consumption of alcohol and increasing social interactions along with rejuvenating activities such as yoga, meditation and doing exercises are some of the mainstream solutions to it. Apart from these, government should take preventive measures by increasing awareness among people so as to prevent themselves from this disease before the need of curing it arises. Thus there is a need for transition in the healthcare markets which are not well equipped to meet the rising demands of changing disease pattern is required. There is an indisputable need to expand the present health infrastructure to include the use of modernized equipment, better infrastructure and quality doctors to provide the social good named as "Health for All" to all the age groups and particularly the ageing group which in turn will have a high demand for health services. The epidemiological transition has speeded up and along with increase in



non-communicable diseases, mental issues like stress, depression, Dementia are also-increasing and curing them requires not only intensive research on the possible diagnosis and treatment measures but also on increasing awareness amongst the masses. This includes collective efforts of government and public owing to large resource requirement and thus calls for an increased Public-Private partnerships and Corporate Social Responsibility in the health sector.

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