



Geriatric Population Dependency in India: An Analytical Review

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

The present study examines the dependency among the elderly population of India, the distribution of dependency in the elderly population across states in India and the causes that are responsible for the dependency among elderly population in India. The study analyses the various data points present on the elderly population enumerated in the Population Census 2011 and the report "Elderly in India" [1] published by the Ministry of Statistics and Programme Implementation, Government of India [2]. The focus of the paper is on analyzing the status, distribution and the causes of old age dependency in India. A few government measures that have been taken in recent times to reduce the old age dependency in the country have also been included as a part of the research. In the end some suggestions how to improve the situation of the elderly population and therefore reduce dependency and promote a better quality of life to them have been provided.

Keywords: Elderly; dependency; dependency ratio; illiteracy; disability; illness.

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1. INTRODUCTION

As Notenstein defined Ageing as a “Triumph of Civilization” and a crucial determinant of economic development [3]. In demographic terms, Ageing is the increase in the percentage of aged population (60+) in the total population, over a certain period of time. The UN considers population of above 65 years as an aged population and defines any country as aged when the proportion of population of people over 65 years get pasts 7% of the total population of that country. The increase in the percentage of aged population is caused both by reductions in the fertility ratios and improved longevity due to improvement in health infrastructure, literacy rates and so on [4-6].

In India we define the elderly population as the percentage of population that is above the age of 60 of the total percentage of population, in a definite period of time. Table 1 shows the distribution of elderly population since Independence in different census years. The proportion of elderly population has increased from 5.5% in 1951 to 6.7% in 1991 and 8.6% in 2011.

Dependency in population studies is the proclivity of a section of a population to depend on another section of the same population for economic and social benefits. It consists of both the population in the age group 0-14 years and the population that is above 65 years of age. Persons that are above 65 are considered as dependent because they are unproductive in economic terms and also as they consume the economic benefits of the productive population, while the persons in the age group 0-14 are considered as dependent

because they are incapable of doing any economic productive work and are the assets of the upcoming future but so is not the case with the former group.

The dependency in elderly population is measured by metrics like old age dependency ratio (OADR). The OADR is defined as the number of persons aged 65 years or over per 100 persons of working age [8] i.e., between the age group of 20 to 64. With the reduction in fertility rate and increasing in the life expectancy, the relative proportion of the elderly population is to increase [9,10].

The old age dependency ratio is projected to increase in all regions of the world, particularly in eastern and South-Eastern Asia and in Latin America and the Caribbean. India being a part of this region prompted me to analyze the trends in the old age dependency in the country.

In this work, I have analyzed the status of dependency among elderly population in India, their distribution, the causes of dependency and some steps that the government has taken to reduce the dependency among the elderly population in India.

1.1 Objectives

1. To analyze the status, distribution and the causes of old age dependency in India.
2. To discuss government measures that have been taken in recent times to reduce the old age dependency in the country
3. To suggest some remedial measures to improve the situation of the elderly population

Table 1. Distribution of population in different age groups

Year	Age-Groups (in %)			Total
	0-14	15-59	60+	
1951	38.4	56.1	5.5	100
1961	41.1	53.3	5.6	100
1971	42	52	6	100
1981	39.7	53.9	6.4	100
1991	37.6	55.7	6.7	100
2001	35.3	56.9	7.4	100
2011	30.8	60.3	8.6	100
2021(projected)	25.1	64	10.7	100

Source: Census of India, [7]

2. DATA SOURCES AND METHODOLOGY

The data that has been employed to show various measures of dependency and situation of elderly in India are taken from- The Census of India, Office of the Registrar General of India and the state wise Life Tables, computed for the different time periods.

Old Age Dependency Ratio (OADR): This is a conventional measure of elderly dependency, which defines that elderly population (60+) are dependent on adult population (15-59), generally the result is multiplied by 100.

3. RESULTS AND DISCUSSION

3.1 Status of Dependency among Elderly in India

In India, generally, people in the age group 15 to 59 years are considered as working population because most of the people take retirement or withdraw from work after this age. Therefore, the old age dependency ratio is defined as the number of persons in the age-group 60 or more per 100 persons in the age-group 15- 59 years.

The Old age Dependency ratio has showed an increasing trend and has risen from 10.9% in 1961 to 12.2% in 1991 and to 14.2% in 2011. This gradual increase in the Old Age Dependency Ratio has been due to decline in the birth rate and also decline in the death rate. Both these factors have seen such trend due to better medical facilities and also the various socio-economic changes that has been taking place in the Indian society since independence.

In Table 2 as we observe that the gap between the male and female old age dependency is showing an increasing trend and has assumed the values of 13.6 and 14.9 respectively in 2011. On the other hand, when we compare between the urban and the rural OADR we observe that there has been a considerable difference in all the time periods. According to the 2011 census, the OADR for the rural and urban areas are 15.4 and 12.4 respectively. This particular trend can be due to higher percentage of working age population in the urban areas. As per the Sample Registration Survey (2016), 67.9% of the urban population lies in the age group 15-59 years whereas 63.2% of the rural population belongs to this age group [7].

Table 2. Old age dependency ratio by sex and residence, India, 1961-2011

Year	Male	Female	Rural	Urban	All
1961	10.9	10.9	11.4	8.7	10.9
1971	11.4	11.6	12.2	8.9	11.5
1981*	11.8	12.2	13	9.2	12
1991**	12.2	12.2	13.2	9.7	12.2
2001#	12.5	13.8	14.1	10.8	13.1
2011	13.6	14.9	15.1	12.4	14.2

Source: Office of the Registrar General, India, [7]

*Excludes figures for Assam as there was no census conducted in 1981

**Excludes figures for the state of Jam mu and Kashmir where census 1991 was not conducted

#Excludes 3 Sub- divisions of the Senapati district of Manipur

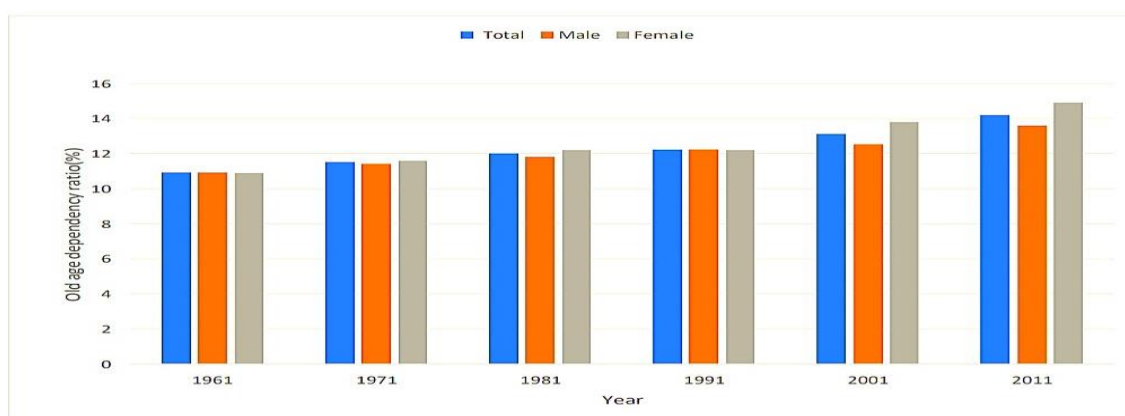


Fig. 1. Old Age Dependency Ratio in India, 1961-2011

3.2 Distribution of Geriatric Population across India

The census data on the elderly population has significant variations across the country. Every state in the country has witnessed increase in the elderly population; some states have shown a greater increase in comparison to the others in the time period of 1961 to 2011. In general, the southern states and the states of Punjab and Himachal Pradesh have shown a greater increase with Kerala witnessing the highest increase. Northern, western and the eastern states have lower percentage of old age population in their demographic structure with Delhi (6.5%) has the lowest proportion of old age population.

A similar trend is also found in the old age dependency ratio across the country. The old age dependency ratio for the whole country is 14.2%, but it varies considerably at the state level. Among the major states the overall old-age dependency ratio varies from 10.4% in Delhi to 19.6% in Kerala. The ratio has increased over time for all the states but the rate of increase was relatively higher in the southern states namely Kerala, Andhra Pradesh and Karnataka.

In 2011, the state with the highest old age dependency ratio (OADR) was Kerala, with an

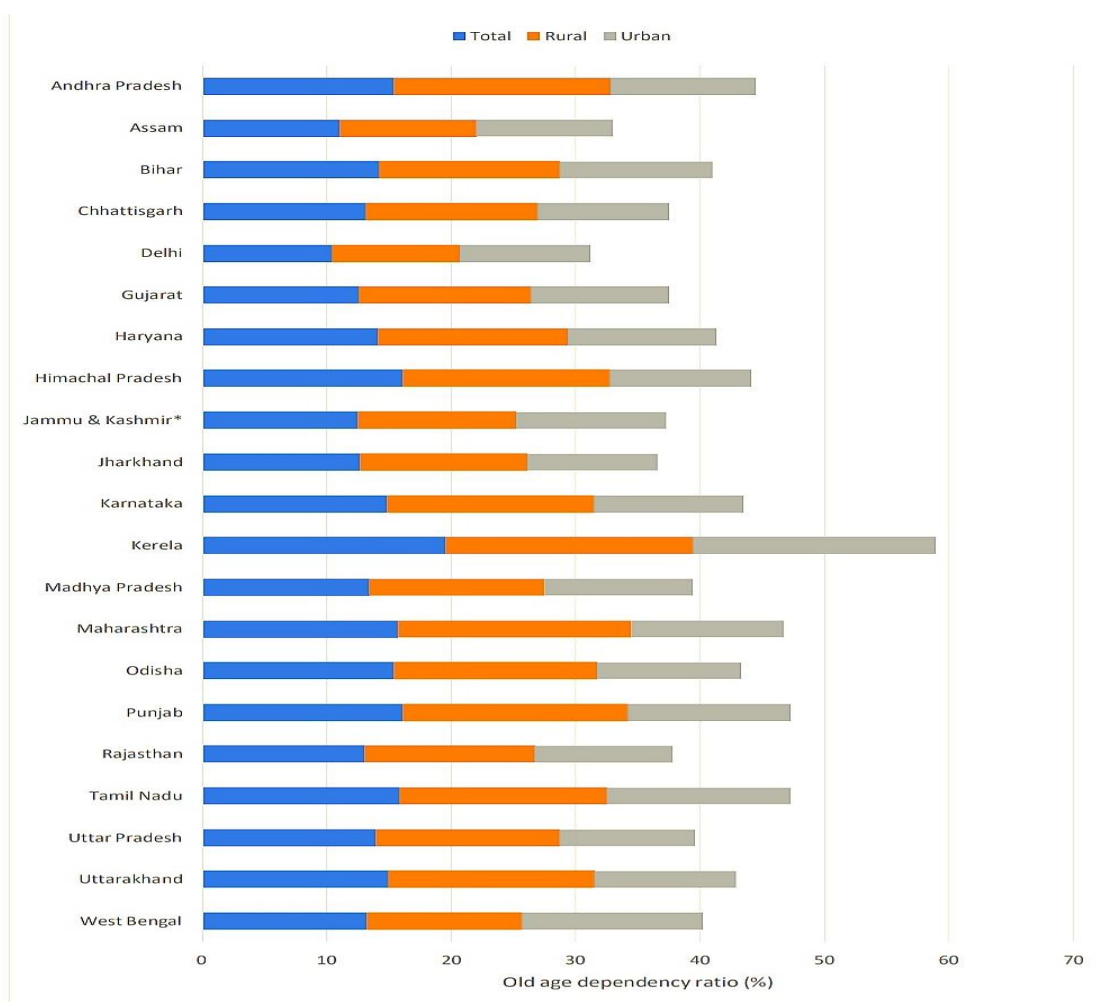
OADR of 19.6% the next two states were Himachal Pradesh and Punjab with an OADR of about 16.1%. All the southern states have a ratio higher than the national average while the states of the northern belt namely Uttar Pradesh, Bihar, Haryana, Rajasthan, Delhi and Jammu and Kashmir (before its reorganization into the UTs of Jammu and Kashmir and Ladakh) have a ratio below the national average. Ratios are also low for the states of Gujarat, West Bengal, Assam, Chhattisgarh and Madhya Pradesh.

A similar trend can also be observed in the distribution of OADR between the male and female groups across the country. The OADR for females and males for the whole country is 14.9% and 13.6% respectively. The females have a higher OADR than males for almost all the states with the exception of only two states namely, Uttar Pradesh and Bihar where the OADR for males is higher than the females. The gap between the female and male OADR is lowest for the states of Odisha and Uttar Pradesh where the ratio is almost same between the two while it is highest for the state of Maharashtra where the OADR for females is 3% more than that of males. For all other states the difference in the female and male OADR lies between these two extremities.

Table 3. Old age dependency ratio by residence in major states, 2011

States	Rural	Urban	Total
Andhra Pradesh	17.4	11.6	15.4
Assam	11.0	11.0	11.0
Bihar	14.5	12.3	14.2
Chhattisgarh	13.9	10.5	13.1
Delhi	10.3	10.4	10.4
Gujarat	13.8	11.1	12.6
Haryana	15.3	11.9	14.1
Himachal Pradesh	16.7	11.3	16.1
Jammu & Kashmir	12.7	12.1	12.5
Jharkhand	13.4	10.5	12.7
Karnataka	16.7	12.0	14.8
Kerala	19.8	19.5	19.6
Madhya Pradesh	14.1	11.9	13.4
Maharashtra	18.8	12.2	15.7
Odisha	16.3	11.6	15.4
Punjab	18.1	13.1	16.1
Rajasthan	13.7	11.1	13.0
Tamil Nadu	16.7	14.8	15.8
Uttar Pradesh	14.8	10.9	13.9
Uttarakhand	16.6	11.4	14.9
West Bengal	12.5	14.5	13.2

Source: Office of Registrar General, India



*Jammu and Kashmir was reorganized into the Union Territories of Jammu and Kashmir and Ladakh in 2019 by the Jammu and Kashmir Reorganization Act 2019

Fig. 2. Old Age Dependency Ratio by Residence in Major States 2011

The distribution of OADR between the urban and the rural areas of the country is somewhat similar to the above-mentioned trends. The national average values of OADR for the rural and urban areas are 15.1% and 12.1% respectively. The rural areas have a higher OADR than the urban areas for almost all the states with the exceptions of Delhi and West Bengal where the OADR for urban areas is greater than the rural areas and Assam where the OADR for both the urban and rural areas is the same. The gap between the urban and rural OADR is less than 1% for the states of Assam, Delhi, Jammu and Kashmir and Kerala while it is highest for the state of Maharashtra where the difference between the OADR of the urban and rural areas is 6.6% [7]. For all other states the difference in the urban and rural OADR lies between the above two values.

The rising OADR for all the states in the country and followed by the fact that the OADR is higher for the female population and among the rural areas which accentuates the problem. The government needs to come up with some important Policies and Programmes for the elderly population to reduce the OADR so that we can harness the potential of our elderly population and do not allow them to become a liability.

3.3 Causes of Old Age Dependency in India and Government's Response

The Sample Survey conducted by National Sample Survey Office in 2004 revealed that 65% of the elderly population has to depend on others for meeting their daily expenditures. Why is it so? What are the causes for such high dependency

among the elderly population in India? Let us examine some of the causes of dependency among the elderly population in India.

Illiteracy: Illiteracy is a major cause of dependency among the elderly population. Illiteracy not only impediments the growth of individual during the young age as it deprives him of better economic opportunities it also hampers the access to various services and facilities in the old age and may also lead to exploitation. The percentage of literates among the elderly population has increased with time from 27% in 1991 to 44% in 2011. But the gap between the male and female literacy rate is huge. As per census 2011, while 59% of the elderly males are literate this figure comes down to 28% for the elderly female which explains the higher value of old age dependency ratio for females in the country. When we compare between the literacy rates among elderly of the urban and rural areas, we observe that while 66% of the urban elderly are literates the figure for rural areas is mere 34%. Also, only 6.7% of the elderly population have passed the secondary level education or above while the figure for urban areas is 29.9%, which in turn explains the higher value of the old age dependency ratio in the rural areas than the urban areas in the country. So, it is quite clear that to improve the dependency among the elderly population and to ensure a better service delivery we need to focus on both early education and adult education in the country.

Though there is no specific programme for adult literacy in the country but various programme of adult literacy can be extended to provide literacy for the old age population. Moreover, with increasing digitization the government should look to provide basic digital literacy to the elderly population so that they can accrue the benefits of various government benefits and do not feel secluded from the rest of the society.

Illness and Disability: Illness or injury means any deviation from the state of physical and mental well-being. An illness may not necessarily result in hospitalization or bedrest it can also impede the normal functions that are necessary for the body and mind to meet the daily requirements of an individual and hence, increases dependency among the elderly population. Among the elderly population 31% have reported some kind of illness either physical or mental. Aged people in urban areas have reported more illness when compared with aged

people in the rural areas. In general, the urban aged people have more prevalence of one or another chronic disease when compared with their rural counterparts for example, the prevalence of heart diseases among elderly men and women was much higher in urban areas than in rural areas.

Illness also includes cases of visual, hearing, speech and locomotor disabilities. Disability in an individual is specifically restrictions or lack of ability to perform an activity considered normal for a human being. The percentage of elderly disabled persons is slightly higher in the rural areas when compared with their urban counterparts. As per Census 2011 data 6% of elderly people in the rural areas are disabled while the figure for urban areas is 4%. The same census reveals that Locomotor (movement related) disability and visual disability are most prevalent disabilities among the aged population. Nearly 50% of the elderly disabled persons are suffering from these two disabilities. The disabilities among the elderly population make them vulnerable and make them financially and physically dependent on the working population.

The government has come with many schemes to deal with the issue of health and well-being of the elderly populations like the Rashtriya Vayoshri Yojana which provide aged people above 60 years of age and belonging to BPL families with assisted living devices suffering from low vision, hearing impairment, loss of teeth, etc. or the Ayushman Bharat yojana though not specifically for old age people but it provides insurance against chronic illness.

3.4 Informal Nature of the Economy

With around 90% of the workforce of India being employed in the informal sector they are deprived of any social benefit programme of the government to support them in their old age and hence increases their dependence on the working population. Though the government has launched many schemes to address the issue like Pradhan Mantri Shramyogi maan-dhan yojana is a mega pension scheme for the unorganized sector launched in the 2019 budget which is to provide rupees 3000 per month after 60 years of age on deposit of a meagre amount during the working age period.

4. CONCLUSION

According to a report 19.6% of India's population will be above 60 years of age by 2050. If not

addressed with immediate concern the old age dependency ratio in India will also increase which will be a burden on the limited resources of the country. The old age dependency in the future can be addressed by providing high class education with focus on skill development to the young population, world class health facilities to derive the full potential of the working population and also the most important is to generate enough employment opportunities for the youth and create a favorable environment for the same.

A healthy environment reduces illness like hypertension and stress among the elderly population and hence reducing their dependency. A clean environment also helps in improving the quality of life of the elderly population. So, the government should focus on reducing environmental pollution and should promote the idea of sustainable development.

Apart from this formalization of economy and ensuring better social security benefits for the working population should also help in reducing the old age dependency in the coming future.

NGOs can be mobilized to ensure better service delivery to the elderly population. Moreover, NGOs can help in community participation of the elderly population so that they do not feel ostracized from the society and in turn help in increasing their mental well-being.

We need to consider our elderly population as assets rather than liabilities as they have huge amount of experience with them. We can harness their experience for better development of own and in turn for the development of the country as a whole.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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