

Urban-Rural Differences in Health Status among Older Population in India

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Abstract

To successfully address the challenges of rapid population ageing, it is essential to have an understanding of health status. In this study, we describe regional variations in health status by assessing self-rated health and functional disability of older population in India. The study uses the data from the World Health Organization sponsored “Study on Global Ageing and Adult Health (SAGE-INDIA)” of 2007. This pioneering survey gathered information from 6560 persons (aged 50 years and over) from six Indian states. Analysis indicates that older population from urban areas is more likely to experience better health status and lower disability. Education plays a very crucial role in better health status and lower disability, irrespective of urban-rural differences. It also shows that higher years of education and better economic status of the households are positively related with better health condition and lower disability. Social security measures, including pensions and health insurance are crucial to ensure quality of life and wellbeing of older population in India.

Extended Abstract:

Background

Population ageing is evolving as one of the most conspicuous demographic phenomenon in the world today. In 1950, just 8 per cent of the world population was aged 60 years and over. By 2000 the proportion of older population had risen to 10 per cent and it is expected to reach 21 per cent in 2050 (United Nations, 2000). As developing countries are projected to age swiftly in the first half of the 21st century, (United Nations, 2002) countries like China and India will witness rapid population ageing.

The rapidly ageing population in India is witnessing new challenges. At present, the absolute number of older population in India is estimated to be the second largest in the world. As the pace of population ageing is much faster in developing countries and it is taking place at much lower levels of socio-economic development than it did in the case of developed countries (United Nations, 2000), India will have limited time to meet the challenges of population ageing.

Population projections show that there will be considerable increase in the proportion of older population in India. The number of people aged 50 years and above in India will increase from 13.4 percent in 2001 to 22.6 percent in 2026 (Government of India, 2006).

Given the rate of increase in the number of older population and the complex nature of the country, there is a substantial need to understand the ageing issues to improve the quality of life and wellbeing of older population (Raju, 2011). The needs and problems of the elderly vary significantly according to their age, economic status, health, living status and other such background characteristics (Raju, 2002). Literature on health has consistently shown that the economic status has a direct bearing on the health of general and older population. Individuals from lower economic status are more likely to suffer from health related inequality. (Currie, 1995; Buckley, 2006; and Tellier, 1999). Studies have also shown that older population who had better education and higher socio-economic status experienced better health and better quality of life (Mullis, 1992; and Ryff 1995). Studies also have found evidences of strong linkages between employment and chronic diseases prevalence among the older population in India. Social networks and family dynamics are central to the wellbeing and functioning of aged in India (Berkman, et.al., 2012).

With the increasing changes in the household structure and in the roles and responsibilities of older population in India, it is important to look at their perceived health status and disability. Understanding the health status and disability of older population and its contributing factors is crucial to respond effectively and efficiently to the various needs of the older population. Although many studies have been conducted in India, there is lack of understanding on the contribution of different factors on subjective wellbeing of older population. In this study, we set out to address this gap by assessing self-rated health and functional disability of people aged 50 years and over in India.

Methods

Data Source

The study uses data from the World Health Organization sponsored Study on Global Ageing and Adult Health (WHO-SAGE) in India. SAGE is part of global longitudinal study implemented in six countries – China, India, Ghana, Mexico, Russia and South Africa. The study in India was conducted by International Institute for Population Sciences (IIPS) in 2007. In India, SAGE was

conducted in six states – Assam, Karnataka, Maharashtra, Rajasthan, Uttar Pradesh and West Bengal. SAGE covered a nationally representative sample of 10600 households across six states while taking into consideration the population size and the level of development. This study greatly relies on the information gathered from 6,560 people aged 50 years and over, from the sample households.

Measurements

Outcome variables

In this study, self-rated health and functional disability (WHODAS) are taken as outcome variables. Self-rated health is one of the basic measures to assess an individual's perceived sense of well-being. It was primarily assessed by asking questions on eight different domains of health namely mobility, self-care, pain and discomfort, cognition, interpersonal activities, sleep and energy, affect, and vision. Each response is rated on a five point scale (none = 1, mild = 2, moderate = 3, severe = 4, and extreme = 5). A summary self-rated health score was generated and later converted into 0-100 scale. A lower score would mean a better health status and vice-versa.

WHO Disability Assessment Schedule – WHODAS 2.0 was used to assess functional disability. Functional disability was calculated by rating difficulty experienced by respondents in performing certain activities during the past 30 days on 12 items. Each response is rated on a five point scale (none = 1, mild = 2, moderate = 3, severe = 4, and extreme = 5) (WHO, 2010). The generated summary score ranged from 12-60 which was later converted to 0-100 scale. The higher the score the higher will be the WHODAS and vice-versa.

Independent variables

We considered factors that could be associated with self-rated health and functional disability that included; age, sex, education, marital status, household asset score, place of residence, and working status. We classified age into four categories; 50-59 years, 60-69 years, 70-79 years and 80 years and over. Education was recorded into no formal education; less than eight years of formal education; nine to twelve years of formal education; and twelve years or more of formal education. We categorised marital status into two categories: currently married; and presently single (i.e. those who had never married or widowed or separated). To understand the potential association of economic status in with the outcome variables, we used a household asset score.

The household asset score was generated using principal component factor analysis from 19 variables. Working status was recoded into three categories: those who are currently working; those who have worked but currently not working; and those who have never worked.

A logistic regression model has been used in the analysis to understand the relationship of various variables to self-reported health and functional disability. The median values of scores of self-reported health (39), and functional disability (36.7) were taken as the threshold for defining higher and lower scores. The reliability of variables used in constructing the summary scores was tested using Cronbach's alpha. The scale reliability coefficient for self-reported health, and functional disability were 0.92 and 0.87 respectively.

Results

Means and standard deviations of the outcome variables assessed in the study area (1676 urban and 4884 rural) are shown in Table 1. Both the outcome variables show differences in the mean score between urban and rural areas. High differences were observed in self-rated health (38 ± 13 vs. 41 ± 14) and WHODAS (36 ± 13 vs. 40 ± 12) scores. In both the indicators, lower scores were observed in urban areas, indicating lower health status and higher disability.

Table 1. Comparison of outcome variables between urban and rural older population in India

Outcome Variable	Urban (N=1676)		Rural (N=4884)		Total (N=6560)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Self-rated health	37.60	13.08	41.89	14.22	40.80	14.06
WHODAS	36.76	13.27	40.06	11.67	39.22	14.39

The distribution of self-rated health and functional disability scores for urban and rural areas in the study population is presented with the help of a boxplot in Figure 1. The medians and their respective inter quartile ranges were: 39 (30 - 49) for health status; 36.7 (28.3 - 46.7) for functional disability. The comparison between urban and rural on both the outcome variables also revealed significant differences.

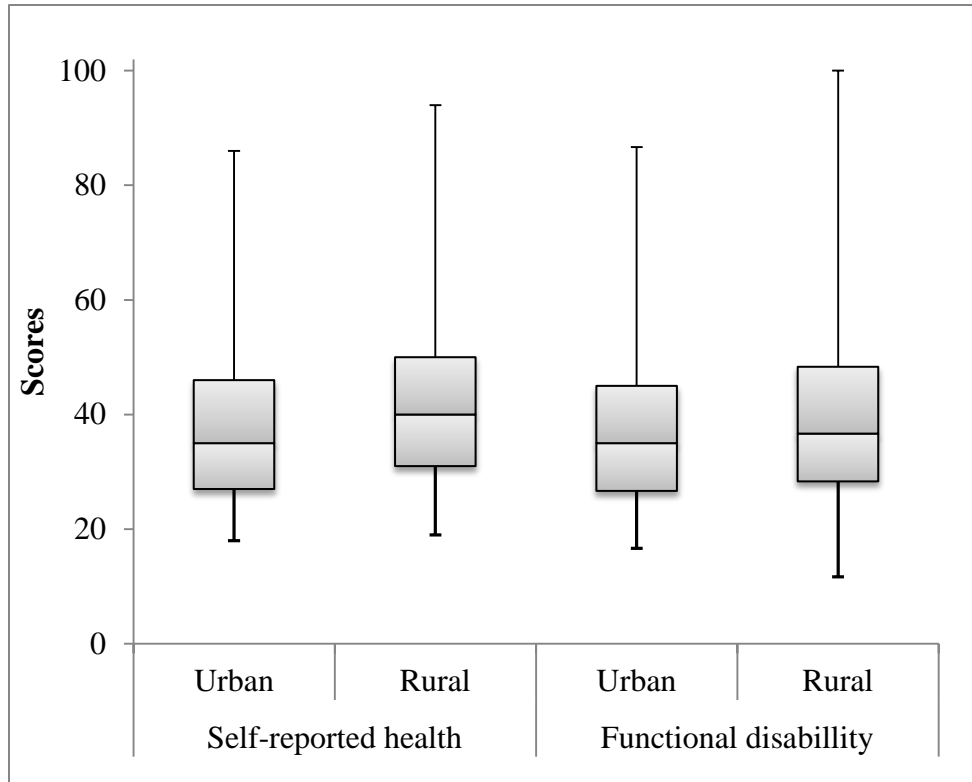


Figure 1. Box plot showing the distribution of scores of self-rated health and functional disability for urban and rural areas. The central line represents the median, and the lower and upper limits represent the 25th and 75th percentiles, respectively. The vertical lines represent the minimum and maximum scores.

Discussion

In this study we describe the urban and rural differences in health status of people aged 50 years and over in India by measuring their self-rated health and functional disability (WHODAS). Higher years of education and better economic status are positively related to better self-rated health, lower levels of WHODAS. Women, those who are currently single, and those who have worked but currently not working are negatively related to better self-rated health, lower levels WHODAS.

Logistic regression shows that there was a gradient in the expected direction in the relationship between increasing age and better health status and lower WHODAS in both urban and rural areas. As age increases self-rated health deteriorates and disability increases. Those who are aged

80 year and over were more likely to report higher disability as compared those who are aged 50-59 years.

The analysis reveals that women report significantly poorer self-rated health and higher disability. Women were 25% more likely than men to report poor health in rural areas.

Increasing number of years of education has a significant positive impact on health status. Higher levels of education are related to better health status lower disability. Clear urban rural difference is seen the case of education and its effect on health status and disability. Living conditions also can greatly affect the health of the elderly. Those who are currently single are 25% more likely to report poor health status and higher WHODAS.

Economic status did not show a very strong relationship with self-rated health or WHODAS. People in the highest quintile were more likely to report better self-rated health and better functional ability as compared to those who are in the poorest quintile.

Those who have worked but are currently not working and those who have never worked are 50% more likely to report poor self-rated health and higher WHODAS. In our study sample only 40% of all respondents are working. The rest of the 60% of the respondents are 50% less likely to report better self-rated health and better ability.

Conclusion

Measuring the urban rural differences in health of older population is very crucial to understand the regional variations in the social support needs of the rapidly growing segment of older population. Older population from urban areas has a high positive relationship with health status and WHODAS. Age, sex, years of education, marital status, economic status, and working status have significant relationship with self-rated health and WHODAS. The economic status of households assumes great relevance in the absence of social security measures for majority of the older population in India. Social security and economic assistance in the form of pensions, health insurance, and other benefits can help the older population in improving the overall wellbeing of older population in India. These findings have considerable relevance for formulating the policies and programmes for older population in India.

Table 2. Factors associated with self-rated health and functional disability of persons aged 50 years and over in India, 2007.

Characteristics	Self-rated Health		WHODAS	
	Urban	Rural	Urban	Rural
Age group				
50-59 [®]				
60-69	0.62** (0.38 - 1.00)	0.72*** (0.61 - 0.86)	0.53** (0.33 - 0.84)	0.74*** (0.62 - 0.87)
70-79	0.58 (0.29 - 1.14)	0.39*** (0.3 - 0.5)	0.41** (0.22 - 0.76)	0.38*** (0.3 - 0.49)
80+	0.38** (0.15 - 0.95)	0.32*** (0.21 - 0.48)	0.24*** (0.11 - 0.51)	0.25*** (0.17 - 0.37)
Sex				
Male [®]				
Female	0.8 (0.43 - 1.49)	0.72** (0.59 - 0.89)	0.73 (0.41 - 1.3)	0.87 (0.71 - 1.06)
Education				
No Education [®]				
Less than 8 years	1.76** (1.05 - 2.94)	1.25** (1.03 - 1.51)	2.08** (1.26 - 3.44)	1.3** (1.08 - 1.56)
9 to 12 years	3.26*** (1.62 - 6.54)	1.53** (1.12 - 2.1)	3.53*** (1.77 - 7.05)	1.74*** (1.27 - 2.39)
More than 12 years	5.42*** (2.47 - 11.92)	2.07** (1.23 - 3.48)	7.85*** (3.66 -	3.58*** (2.01 - 6.37)
Marital status				
Currently married [®]				
Currently Single	0.86 (0.49 - 1.48)	0.75** (0.61 - 0.91)	0.69 (0.41 - 1.16)	0.81** (0.66 - 0.98)
Economic status				
1 st quintile [®]				
2 nd quintile	3.2** (1.25 - 8.19)	1.26* (0.99 - 1.6)	2.99** (1.24 - 7.25)	1.29** (1.01 - 1.63)
3 rd quintile	2.96** (1.34 - 6.53)	1.27* (0.99 - 1.63)	2.64** (1.17 - 5.94)	1.22 (0.95 - 1.55)
4 th quintile	1.9 (0.84 - 4.34)	1.84*** (1.43 - 2.35)	1.52 (0.65 - 3.53)	1.88*** (1.47 - 2.41)
5 th quintile	3.65*** (1.71 - 7.81)	2.14*** (1.64 - 2.78)	2.71** (1.25 - 5.88)	1.97*** (1.51 - 2.56)
Working status				
Currently working [®]				
Currently not working (but have worked	0.54** (0.32 - 0.92)	0.46*** (0.38 - 0.56)	0.48** (0.29 - 0.82)	0.51*** (0.42 - 0.61)
Never worked	0.52* (0.27 - 1)	0.53*** (0.43 - 0.67)	0.63 (0.34 - 1.19)	0.51*** (0.41 - 0.64)

*p<=.10 **p<=.05, ***p<=.001

Source: Study on Global Ageing and Adult Health (SAGE-INDIA), (IIPS and WHO, 2012).

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