Influence of Perceived Economic Well-being on Self-Rated Health Status of the Older Adults Aged 50 Years and above in India

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Abstract

The objective of this study was to examine there lationship of perceived economic well-being on self-rated health status among the older population aged 50 years and above in India. The study used the unit data from the Study on Global Ageing and Adult Health (SAGE): wave 1, 2007-2010 which was implemented in India. The study was carried out from a sample representation drawn from 7150 older adults aged 50 years and above in India. The findings showed that about 22. 4% of the older adults had poor self-rated health, 47. 1% had moderate self-rated health, and 30. 5% had good self-rated health. The bivariate results showed that the poor self-reported health was higher among those perceived lower economic well-being (having little/no money to meet needs). After adjusting for other socio-economic and the demographic characteristics, the perceived economic condition remained a significant predictor of the self-rated health of the older persons. The results found that those perceived of having little/no money [OR=0. 213, p=0. 000, 95% CI=0. 155-0. 292] and moderate money [OR= 0. 457, p=0. 000, 95% CI=0. 352-0. 595] to meet their needs were less likely to rate moderate or good health than those perceived of having completely/mostly money to meet their needs. The sudty found a positive and strongassociatiion of Perceived economic well-being and the self-reported health status among the older adults aged 50 years and above in India.

Keywords: Perceived economic well-being, self-Rated health status, older Adults, India.

Introduction

The demographic transition which is a process of low fertility rate followed by the low mortality rate have already taken place in many developed countries, while few developing countries like India are now entering into the last stage of demographic transition. In last few decades India has also observed dramatic sifting in the age structure with synchronizing the child population. India is approaching towards achieving the fertility replacement level with total fertility rate (TFR) of 2. 4in 2012[1]. Presently, ten states out of 20 bigger states have reached the replacement level, and remaining states are going to achieve very soon. Reduction in fertility followed by improvement in mortality conditions and an increase in longe vitywith the improvement in health care facilities is contributing to increase the proportion of aged population in the society. The life expectancy at birth has substantially increased from 49. 7 years during 1970-75 to 66. 1 years during 2006-2010[2].

India witnessed a rapid percentage decadal growth rate during last four decades from more than 32% in 1981 to 35. 5% in 2011 among the elderly population at age 60 and above despite a steady decline in the overall population growth from 24. 8% in 1971 to 17. 7% in 2011. India added about more than 40 million elderly populations during 1971 to 2001 from 33 million in 1971 to 77 million in 2001. During 1971 to 1981, 1981 to 1991 and 1991 to 2001 India added about 10 million, 14 million and 20 million elderly populations. However, in the last census decade from 2001 to 2011, India added more than 27 million older populations and has reached to 104 million which accounted about 8. 6% of the total population. According to United Nations Population Division in India, the older adults aged 50 and more is projected to reach 34% in 2050[3]. The number of 60+ population for every 100 children is expected to increase rapidly from 23.4 elderly persons in 2011 to 53elderly persons per 100 children by 2026[4].

The growing graying population has much health and economic implications for any society. The primary concern for growing elderly people are that aging leads to bad health which may put additional demand on health care services and increasing health expenditure on the elderly population. The pressure of old age dependency on the working age group increased significantly from 10. 9% to 13. 1% during 1961 and 2001, and will continue to increase in the coming decades[5]. The older persons are more likely to suffer a higher risk of morbidity compared to their younger counterparts[6-7]. The disease pattern especially among the elderly population is also now changing as the profile of burden of morbidity is shifting from infectious diseases or communicable diseases to non-communicable chronic diseases. Studies documented that the self-rated health status of the elderly had been deteriorated over the decades in India[8]. Almost half of the elderly persons in India are suffering from at least one chronic disease such as asthma, angina, arthritis, depression, or diabetes[9]. Lena et al. studied the health and social problems of the elderly in Udupi Taluk and found that the majority of the

elderly population had health problems[10]. The study also found that most of the elderly population were deprived of financial security. Chattopadhyay explored needs and demands of the elderly in Mumbai and found that more than half of the elderly demanded financial security interventions from the government to tackle the problems of elderly[11]. The financial insecurity is a major problem among Indian elderly persons[12]. The elderly people in India do not get much financial support by the state, except a minimal amount in the form of old age pension, like western countries. Though the socio-economic conditions of the elderly population directly affect their health status[13], the financial situation also has implication on health. The elderly those who had economic dependency experienced depression than those who were economical independent[14]. Studies also suggested emphasizing family support systems like care givers and social networks to the elderly people to tackle the issues of aging[15]. The as informal care giving towards the elderly persons in the family seems likely to decrease. Few studies documented that the actual income level and financial hardship has a direct influence on the health status[16-20]. Cheng et al. investigated the relationship between self-rated financial situation and the health status ofthe elderly persons in China and found that the poor health was higher among those who had worst self-assessed financial condition compared to those well of financial condition[18]. Tucker-Seeley suggested that the elderly persons with financial hardships had more likely of mortality compared to those elderly persons without any financialin hardship United States[16]. Pu et al. found that poor financial position with low educational attainment was strongly related to poorer health among the elderly[21].

However, there are limited literatures that examine the influence of perceived economic well-being on self-rated health status among the older population in Indian context. The developed nations have shown many adverse implications for an aging society like shortage of work force, health issues, increase spending on health and pension. With the increasing growth of the older population, India is going to be considered as an aging society soon. This research is trying to examine the influence of perceived economic condition on self-rated health status among the older population aged 50 years and above in India. The self-rated health condition is widely acknowledged among the researchers as a good indicator to measure the objective health status among the elderly population[22-24]. The research is hypothesized that the elder population those perceived lack of economic condition to meet their basic need are more likely to experience poorself-rated health condition.

Methodology

Data: This research is based on Study on Global AEing and Adult Health (SAGE): wave 1, 2007-2010 which was conducted by WHO in six countries- China, India, Ghana, Mexico, Russia and South Africa[25]. This study used the data that was implemented in India during 2007-08. The samples of this survey were drawn using a stratified multistage cluster design.

The target population of this survey was the adult population aged 18 year and above. The older adults aged 50 years and above were the focus of the study and the adults aged 18 to 49 years were included in the survey as control groups. The samples of these two groups were collected from one of the two mutually exclusive type of household: one or more 50 years and above were interviewed from the households classified as 50+ households and one person aged 18-49 years from the households classified as 18-49 years households. On that basis, a total of 7150 older persons aged 50 and above were interviewed from 50+ households and 4080 persons aged 18-49 years were selected from 18-49 years households. The survey collected comprehensive information on health including self-reported health status and their well-being. It interviewed a total sample of 11, 230 adults of 18 years and above in India. The samples were nationally representative and basically drawn from six states Assam, Karnataka, Maharashtra, Rajasthan, Uttar Pradesh and West Bengal. This paper used only the samples drawn from 50+ households that comprised a total of 7150 older population.

Methodology: The present research used self-reported health status among the older people. The self-reported health status is widely used as an objective health indicator[26-29]. In this survey, the question on health status asked to the elderly people was "in general, how would you rate your health today?" Very bad health and bad health was recoded as "poor" health status. Similarly good health and very good health was recoded as "good" health status. Moderate health was kept as it was.

In this paper, the economic well-being was basically measured from a self-assessment of economic condition. The question that was asked to the elderly in this survey was "Do you have enough money to meet your needs?". The question had five categories – completely, mostly, moderately, a little, and not at all. The responses were categorised into three categories, "mostly" which includes completely and mostly, "moderately" which includes only moderately, and "a little/no" which includes a little and not at all. The control variables that includedin the studyare age, sex, marital status, education, current working status, income quintile, caste, religion and place of residence. The variables that were categorised to use in the analysis are as follows: Age: 50 to 59, 60-69, 70-79, 80 and above. Sex: male, female. Marital status: currently married, widowed, never married/separated/divorced. Education: No education, less than five years, six to 10 years, and 10 years and above. Working status: currently working, currently not working. Income quintile: poorest, poor, middle, rich, richest. Social groups: ST, SC, no caste/tribe, others. Religion: Hinduism, others. ix. Place of residence: urban, rural. x. Perceived economic well-being: completely/mostly enough money, moderate money, a little/no money.

Bivariate and multivariate analyses were used for the analysis of the study. The bivariate analysis was used to examine the association between the economic well-being, the health status,

and the control variables thoughts to influence self-rated health status. Here the dependent variable (self-rated health status) was in ordinal which was in order from poor to moderate and good. Hence, the ordinal logistic regression was employed to investigate the effects of economic well-being on the self-rated health status among the elderly population. The predicted probabilities were also calculated for the self-rated health status by economic well-being by holding control variables at their means.

Results and Discussion

Sample distribution of older adults in India: Table 1 presents the percentage distribution of socio-economic and demographic characteristics of the older adults in India. A total of 7150 older adult samples were used in this research. Majority of the older adults were in the age group of 50-59 years (48. 8%) followed by 60-69 age group (30. 5%), 70-79 age group (15. 8%) and 80+ age group (4. 8%). Little more than half of the older adult sample was male (51. 1%) while 48. 9% were female. About one-fifth of the older adults were widowed, and three-fourth was currently married. Majority of the older adults had no education (51. 4%) while about one-fifth had five years of education and 6-10 years of education each. Only 10% of the older adults had more than ten years of education. About 59. 1% of the older adults were currently working. The sample distribution by caste shows that the majority of older adults belonged to other caste groups (64. 1%) followed by SC, no caste/ tribe, and ST category. Majority of the older adults belonged to Hinduism. About 70. 6% were residing in rural areas while the other 29. 7% older adults were residing in urban areas. Only one-fourth of older adults had reported of having completely/ mostly enough money compared to 40. 7% had reported having moderate enough money and 35. 2% had reported of having a little/no enough money to meet needs.

Self-rated health status: Table 2 shows the self-rated health status among the older adults by their socio-economic and demographic characteristics in India. The study found that as the age of the elderly persons increased the self-rated health worsened. For example, 16. 5% of the elder population among 50-59 age groups had poor self-rated health compared to 22. 7% for 60-69 age groups, 32. 9% among 70-79 age groups and 47. 2% among 80+ years. On the other hand, only 11. 5% of the elder population in 80+ years had good self-rated health compared to 37. 3% among 50-59 age groups. This suggests that the health condition of the elderly people deteriorates as the age goes on increasing, and it is worsened among those who were at the age of 80 years and more. The female elder persons had more poor self-rated health than male elderly persons. For example, more than one-fourth (25. 3%) female elder persons and less than one-fifth (19. 7%) male elder persons had poor self-rated health. The currently married elder persons had more good self-rated health and those who were widowed, and others had more poor self-rated health. There were significant differences in self-rated health status also found by level of

education. The more educated elder persons had more good self-rated health compared to low education level elder persons. Similarly, the elder persons belong to the richest quintile had more good self-rated health status and the elder persons belong to the poorest quintile had more poor self-rate health status. The poor self-rated health was found higher among the elder persons belonged to ST, SC and others groups compared to those belonged to no caste/tribe. The older persons residing in rural areas had more poor self-rated health compared to the elderly persons residing in urban areas. With respect to working status of the elderly, it was found that the elderly those who were not currently working had more poor self-rated health compared to those currently workers. This suggests that the health condition constraints for working at the old age as few studies found that the low level of labour force participation rate among elderly is associated with lower level of health status[28]. The self-rate health status among the elder persons also was varied mainly by their economic well-being that was measured as whether had enough money to meet the basic needs. The self-rated poor health was 12% among those had completely/mostly enough money to meet basic need compared to 15. 1% among moderately and 38. 1% among those had little/no enough money. Similarly, more than half of the elder population among those had completely/mostly enough money had self-rate good health status compared to 28. 6% among moderately and 18. 2% among little/no enough money. The chi-square test indicated that the group differentials in self-rated health status were statistically significant.

Influence of perceived economic well-being on self-rated health status: Table 3 presents the results of three models from multivariate ordinal logistic regression to examine the influence of perceived economic well-being of elderly persons on their self-reported health status. The first model includes only the perceived economic well-being, second model includes only the socio-economic and demographic characteristics, and the third model includes both perceived economic well-being, and socio-economic and demographic characteristics as control variables. The income quintile was not included in the third model as the two predictors "income quintile" and "perceived economic well-being" are obviously related to each other. The results reiterate that the perceived economic well-being is significantly associated with the self-reported health status of the elder population. Model I presented the odds ratio for economic condition without adjusted for other covariates. The elderly with completely/mostly money and moderately enough money to meet basic need had higher probability to have moderate or good self-rated health status compared to those with little/no enough money to meet basic need. For example, the elderly persons with completely/mostly money had the odds of 5. 487 [95% CI: 04. 387 - 6. 862] and the elderly with moderately enough money had the odds of 2. 487 [95% CI: 2. 093 - 2. 956] compared the elderly with little/no money. Model II includes only the socio-economic and demographic characteristics and excludes the perceived economic well-being variable. The model suggested that age, education, income quintile, place of residence, caste, religion and

working status of elderly were significantly associated with the self-rated health status among the elderly persons. Model III included the perceived economic well-being and other covariates excluding income quintile. From the model III it is found that the perceived economic well-being remained statistically significant after controlling for other covariates. Some of the covariates became insignificant in model III. After controlling for other factors, the elderly with completely/mostly enough money to meet basic need (OR=4. 926 p=0. 000, 95% CI=3. 584 - 6. 771) and moderately enough money to meet basic need (OR=2. 209, p=0. 000, 95% CI=1. 770 - 2. 757) had higher odds to achieve moderate or good self-rated health compared to little/no enough money to meet basic need.

Table-1
Sample distribution of older adults aged 50 years and above in India

Variables	Percentage	n[a]
Age		
50-59	48. 8	3179
60-69	30. 5	2456
70-79	15. 8	1148
80+	4. 8	367
Sex		
Male	51. 1	3616
Female	48. 9	3534
Marital status		
Currently married/cohabiting	76. 7	5305
Widowed	21. 9	1722
Others b	1. 4	123
Education		
No education	51. 4	3365
5-1 years	19. 3	1292
6-10 years	19. 1	1272
10+ years	10. 2	611
Working status		
Not working	40. 9	2064
Currently working	59. 1	3650
Income quintile		
Poorest	17. 9	1134
Poor	19. 3	1313
Middle	18. 8	1321
Rich	19. 5	1534
Richest	24. 5	1804
Caste		
ST	5. 5	400
SC	16. 5	1085
No Caste/Tribe	13. 9	1124
Other	64. 1	3929
Religion		
Hinduism	84. 3	5532
Others	15. 7	1028
Place of residence		
Urban	29. 7	1861
Rural	70. 6	5289
Perceived economic well-being		
Completely/mostly money	24. 1	1422
Moderately money	40. 7	2803
Little/no money	35. 2	2329
Total	**100. 0**	**7150**

[a]Unweighted sample size; [b] Never married/ divorced/ separated.

Table-2
Self-Rated health status of elderly by socio-economic and demographic characteristics in India

Variables	Self-Rated health status of elderly				n	
	Poor	Moderate	Good	Total		
Age group						P=0. 000
50-59	16. 5	46. 2	37. 3	100. 0	2939	
60-69	22. 7	49. 1	28. 3	100. 0	2234	
70-79	32. 9	47. 6	19. 5	100. 0	1058	
80+	47. 2	41. 2	11. 5	100. 0	328	
Sex						P=0. 000
Male	19. 7	44. 5	35. 8	100. 0	3303	
Female	25. 3	49. 7	25. 0	100. 0	3256	
Marital status						P=0. 000
Currently married	19. 8	47. 3	32. 9	100. 0	4861	
Widowed	31. 0	46. 3	22. 7	100. 0	1592	
Others[b]	33. 7	43. 8	22. 6	100. 0	106	
Education						P=0. 000
No education	26. 6	49. 9	23. 6	100. 0	3365	
5-1 years	22. 6	47. 0	30. 5	100. 0	1291	
6-10 years	16. 4	46. 3	37. 3	100. 0	1272	
10+ years	12. 2	34. 7	53. 1	100. 0	611	
Working status						P=0. 000
Not working	30. 6	46. 9	22. 6	100. 0	2064	
Currently working	13. 8	45. 8	40. 5	100. 0	2650	
Income quintile						P=0. 000
Poorest	31. 0	46. 6	22. 4	100. 0	1062	
Poor	25. 6	49. 0	25. 3	100. 0	1219	
Middle	25. 0	44. 4	30. 6	100. 0	1206	
Rich	18. 6	48. 8	32. 7	100. 0	1407	
Richest	14. 1	46. 7	39. 2	100. 0	1627	
Caste						P=0. 000
ST	35. 8	41. 0	23. 2	100. 0	400	
SC	25. 0	47. 4	27. 6	100. 0	1085	
No Caste/Tribe	17. 0	50. 5	32. 5	100. 0	1124	
Other	21. 7	46. 8	31. 5	100. 0	3928	
Religion						P=0. 000
Hinduism	21. 4	47. 1	31. 5	100. 0	5531	
Others	28. 0	46. 7	25. 4	100. 0	1028	
Place of residence						P=0. 000
Urban	19. 7	42. 5	37. 8	100. 0	1676	
Rural	23. 5	48. 9	27. 6	100. 0	4883	
Perceived economic status						P=0. 000
Completely/mostly money	12. 0	36. 1	51. 9	100. 0	1422	
Moderately money	15. 1	56. 4	28. 6	100. 0	2803	
Little/no money	38. 1	43. 8	18. 2	100. 0	2329	
Total	**22. 4**	**47. 1**	**30. 5**	**100. 0**	**6559**	

Note: *p* values are estimated from chi-square test. [b]Never married/ divorced/ separated.

Table-3
Odds ratios from ordinal logistic regression of the self-rated health status among the older adults aged 50 years and above in India

Covariates	Model I		Model II		Model III	
	Odds ratios	95% Confidence Interval	Odds ratios	95% Confidence Interval	Odds ratios	95% Confidence Interval
Perceived economic status						
Little/no money ®	1. 000					
Moderately money	2. 487***	[2. 093 - 2. 956]			2. 209***	[1. 770 - 2. 757]
Completely/mostly money	5. 487***	[4. 387 - 6. 862]			4. 926***	[3. 584 - 6. 771]
Income quintile						
Poorest ®			1. 000			
Poor			1. 297*	[0. 970 - 1. 736]		
Middle			1. 471**	[1. 075 - 2. 012]		
Rich			1. 587***	[1. 183 - 2. 129]		
Richest			2. 186***	[1. 554 - 3. 076]		
Age group						
50-59 ®			1. 000			
60-69			0. 778**	[0. 628 - 0. 964]	0. 784**	[0. 635 - 0. 968]
70-79			0. 477***	[0. 352 - 0. 644]	0. 498***	[0. 369 - 0. 671]
80+			0. 283***	[0. 192 - 0. 415	0. 282***	[0. 190 - 0. 419]
Sex						
Male ®			1. 000			
Female			0. 987	[0. 788 - 1. 234]	0. 983	[0. 788 - 1. 226]
Marital status						
Currently married ®			1. 000			
Widowed			1. 049	[0. 816 - 1. 348]	1. 080	[0. 841 - 1. 387]
Others			0. 546**	[0. 338 - 0. 880]	0. 545**	[0. 344 - 0. 864]
Education						
No education ®			1. 000			
5-1 years			1. 218	[0. 951 - 1. 561]	1. 251*	[0. 972 - 1. 611]
6-10 years			1. 273*	[0. 978 - 1. 656]	1. 223	[0. 945 - 1. 582]
10+ years			1. 665**	[1. 051 - 2. 637]	1. 580**	[1. 046 - 2. 387]
Place of residence						
Urban ®			1. 000			
Rural			0. 757*	[0. 561 - 1. 021]	0. 755*	[0. 564 - 1. 010]
Caste						
ST ®			1. 000			
SC			1. 676**	[1. 105 - 2. 540]	1. 654**	[1. 097 - 2. 494]
No Caste/Tribe			1. 682**	[1. 123 - 2. 519]	1. 869***	[1. 260 - 2. 771]
Other			1. 508**	[1. 026 - 2. 217]	1. 402**	[0. 964 - 2. 038]
Religion						
Hinduism ®			1. 000			
Others			0. 714**	[0. 542 - 0. 939]	0. 747**	[0. 574 - 0. 972]
Working status						
Not working ®			1. 000			
Currently working			2. 050***	[1. 659 - 2. 532]	1. 993***	[1. 624 - 2. 446]

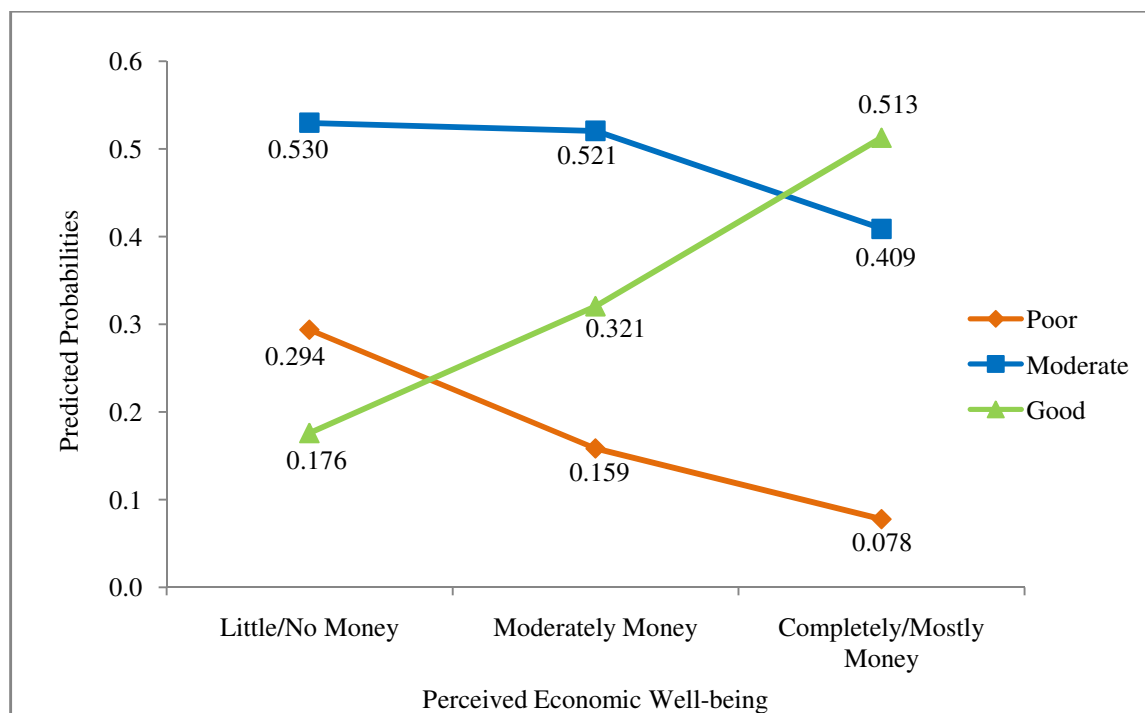Note: ®= reference category; *** p<0. 01, ** p<0. 05, * p<0. 1

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Figure-1
Predicted probabilities of the self-rated health status of the older adults aged 50 years and above by perceived economic well-being in India

Figure 1 shows the predicted probabilities of self-rated health status of elderly by perceived economic well-being of the older adults in India. The elderly people those who reported little or not at all enough money had higher probability of experiencing poor self-rated health status than those who reported moderate and mostly or completely enough money to meet basic need. The probability of self-rated poor health among those who reported little/not at all enough money to meet basic need was 0. 294 compared to 0. 159 among those who reported moderately enough money and 0. 078 among thosewho reported completely/mostly enough money to meet basic need. Similarly the predicted probability of good self-rated health was higher among the elderly persons who had reported completely/mostly enough money (0. 513) and lowest among the elderly who had reported little/not all enough money (0. 176) to meet their basic need

Conclusion

Based on nationally representative data on SAGE in India implemented by world health organization (WHO) during 2007-08, the present study examined the influence of perceived economic well-being on the self-rated health status of the elderly in India. The self-rated health status is now commonly used by many researchers and found a very precise indicator to address the objective health. Similarly, the perceived economic well-being was measured from a self-assessment economic condition question. This research found that the perceived economic well-being among the elderly persons positively and strongly affects the self-rated health status. The findings suggested that the elderly persons who reported little/not at all enough money to meet basic need experienced poorer self-rated health than those who reported moderate enough money and completely/mostly enough money to meet basic needs. The self-rated health status was also varied by their socio-economic and demographic characteristics. The poor health status of the elderly persons is a part of the experience of age. In this study, it was observed that the elderly persons those who were 80 years and more had experienced more poor self-rated health compared to their younger counterparts. This suggests that the health condition of the elderly people deteriorates as the age goes on increasing, and it is worsened among those who were at the age of 80 years and more. The health status also differed by the income quintile among the elderly people in India. The elderly from lower quintile had reported poor health than the elderly belonged to higher quintile. The elderly people with higher education had reported good health and with less or uneducated elderly had reported poor health. The rural elderly persons had more poor self-rated health compared to their urban counterparts. With respect to working status of the elderly, it was found that the elderly those who were not currently working had reported more poor self-rated health than those who were currently working. This suggests that the health condition constraints for working at the old age as few studies found that the low level of labour force participation rate among elderlyis associated with lower level of health status[30].

The multivariate results suggest that controlling for other covariates, the perceived economic well-being remained the significant factors of self-rated health condition among elderly persons. The odds ratios of self-rated health status were found higher in the case of perceived economic well-being than in the case of income quintile which suggests the importance of perceived economic well-being over the income quintile of the household. The elderly persons belong to higher income quintile does not necessarily to have good economic well-being as most of the elderly are dependent on others for financial support. The probability of experiencing poor self-rated health among older adults was higher among those who reported lower perceived economic well-being than those who reported of higher perceived economic well-being. The financial insecurity among the elderly leads to the mental stress which affects their health status. Studies also advocate that economic insecurity affect to access health care services among the elderly people[31].

It can be concluded that the lower perceived economic well-being has a direct bearing on poor health status in the Indian context among the elderly persons of 50 years and above. The perceived economic well-being was found significant predictor over the income quintile in influencing self-rated health status. This suggests that financial security among the elderly persons in India needs to be fo cused on the improvement of their health status and also to increase access to health care services. The health care facility for the senior citizens in India is free of cost. However, due to other indirect costs they cannot access to proper medical services. The financial security of the elderly persons may help to access the health care services and can reduce the burden of aging population.

Acknowledgment

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