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Ageing and Depression Assessment: A Study of Urban India

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Abstract

Self-reported wellbeing is emerging as a focus of research in the field of public policy and economics. It has been realized that economic progress of any nation does not ensure wellbeing of its citizens. Therefore, it has become imperative to assess self-reported wellbeing of an individual. Also, the unparallel increase in the proportion of aged population has raised the concerns of policymakers as this stratum of the population experience a decline in the productive capacity along with an increase in the health care needs. Elderly care has recently become an area of concern for India owing to the breakdown of the traditional care givers of elderly. Therefore, this paper made an attempt to assess the depression among older population aged 50 years and above living in urban India using self-administered semi-structured questionnaire based on Geriatric Depression Scale. Appropriate statistical analysis was employed to meet the specific objectives. The result depicts that a majority of elderly reported absence of depressive symptoms which is indeed a good sign; however converting the result into absolute figure and if one interprets the result for the entire nation, the situation is worrisome. Further, the socioeconomic pattering of absence of depressive symptoms depicts that education and economic status of elderly has a positive association while their age and number of living children has negative association. Overall, the study concludes that by improving the basic structure of the society absence of depressive symptoms among elderly can be ensured to some extent before any concrete policy decision is arrived at.

ABBREVIATIONS

GDS: Geriatric Depression Scale; SES: Socioeconomic Status

INTRODUCTION

In recent times, self reported wellbeing has emerged as a focus of intense debate in the field of public policy and economics. The commission on the measurement of Economic Performance and Social Progress argued that present measures of economic performance such as Gross Domestic Product[1] are insufficient as indicators of the progress of society and self reported wellbeing should be taken into account [1]. However, as early as in 1974, Richard Easterlin stated its paradox[2] which for the first time suggested that there is no link between the level of economic development of a country and overall happiness of its citizens [2]. It is only recently that the social science research has begun to examine the wellbeing of individuals and its association with various other factors. At the same time, the world is witnessing an unparalleled shift in its age structure with declining fertility levels and increasing longevity giving rise to population ageing.

Globally, the proportion of population aged 60+ was 8.2% in 1950 which increased to 10% in the year 2000 and is projected to increase to 21.1% by 2050; this increase would be equivalent to the child population of 0-14 years [3]. This crossover of an increasing share of older population and a declining share of child population would mark for the first time in history that the number of children and older persons is same [3]. Further, the phenomenon of ageing first became visible in developed regions; but now, the demographic projections evidenced an unmistakable trend of ageing in developing regions as well [4]. Asia is home to 54% of the world's older population, followed by Europe with a share of 24% [5]. Further, it is projected that by 2050, 82% of the older population would be residing in regions of Asia, Africa, Latin America and the Caribbean while only 16% would reside in developed regions of Europe and North America. The intensity and depth of aging, varied across countries and

[1]Gross Domestic Product, defined as the final value of goods and services produced in the economy using domestically owned resources within an accounting year.

[2]It is a theory postulated by Richard Easterlin in 1974

regions but the transition of less developed regions from young to an old age structure would occur over a shorter span of time [3,6]. Such shifts in the age structure may compel the governing bodies to look for the reallocation of their resources as the needs of this stratum of population is different and hence, needs to be met differently.

The phenomenon of ageing affects all aspects of the society including health, social security, education, socio-cultural activities, family life and labor market [7] but its ramifications are different for developed and developing economies. The foremost concern with population ageing lies in its unprecedented nature implying lack of any historical evidence to efficiently manage the rapidly increasing elderly population and ensure healthy aging. While the developed countries experience a declining share of working age population; developing countries are getting old before being rich. Along the lines, change in the social fabric of many Asian countries in terms of increasing trends towards nuclear family set up is adding on to the vulnerabilities of elderly. In India, the provision for social security benefits are often enjoyed by a small proportion of labor force engaged in the organized sector; however, majority of the labor force working in the unorganized sector is living with almost negligible societal benefits. The government of India is making efforts to ensure a dignified life to its senior citizens such as National Old Age Pension Scheme, Senior Citizen Saving Scheme and Integrated Program for Older Persons [8]; but these efforts are though commendable but not suffice considering the mammoth size of its elderly population. Therefore, under the changed scenario and limited capacity of the government it becomes imperative for an individual to ensure own wellbeing in older ages.

The late life is a time at which some of life's most significant and influential decisions must be made for example, retirement savings, medial options, intergenerational transfer etc [9]. Also, loss of spouse, deterioration of health and retirement are few of the major life events that may adversely affect wellbeing of elderly. Wellbeing, though an encompassing concept, is, however, very difficult to define accurately; within its construct there are different approaches which capture different aspect. The concept of wellbeing is broadened from being focused on levels of income and consumption to be accepted as a multidimensional construct. In recent years, two approaches have emerged to measure wellbeing i.e. Objective and subjective wellbeing. The former focuses on the economic and social aspects of wellbeing while the latter focuses on the psychological aspects of wellbeing. It also examines the ways in which people assess their sense of personal wellbeing and how they evaluate their lives [10-12]. In other words, each component of wellbeing reflects people's evaluations of what is happening in their lives, the facets of wellbeing such as positive effect, lack of negative effect and life satisfaction, show some degree of independence and therefore should be measured and studied individually [13,14]. However, in the opinion of Lim & Kua [15] among the social and health concerns, emotional well-being of elderly deserves a special mention. In the views of [16] older adults are more likely to experience feelings of loneliness. Elderly often feel left out in the family matters which tend to create a feeling of depression among them. Late-life depression is perhaps the most frequent cause of emotional suffering, and is also found to be a risk factor for poor self-rated health [17]. Emotional well being is, thus a critical part of elders to help them age gracefully and remain independent as well as integrated with society.

Though ageing is a worldwide phenomenon; it is a bigger challenge for developing countries. In India owing to inadequate government funded institutional support in terms of social security provisions, health insurance and public health systems considering the mammoth size of elderly and gradual breakdown of traditional care givers (i.e. system of multi-generational co-residence) have increased vulnerabilities of revered elderly. These emerging trends make India an excellent site to examine the depression among older persons. Further, it also investigates selected socioeconomic and demographic determinants of depressive symptoms among elderly.

MATERIALS AND METHODS

Data source

The study is based on the primary data collected using semi-structured questionnaire. Considering the limitations of an individual researcher, the study is confined to urban parts of Jaipur, Rajasthan. Using the sample size estimation formula, the sample size for the study was decided on 400 elderly aged 50 years and above living in urban Jaipur.

Sampling design

A three stage sampling procedure was followed to select the study subjects. In the first stage, five urban wards in Jaipur city i.e. Ward No 17; Ward No 27; Ward No 35; Ward No 38 and Ward No 54 were purposively selected. Table (1) gives the information of the selected wards.

These wards were purposively selected to capture the different socioeconomic segments of the population to the largest possible extent. Ramganj area is predominately inhabited by Muslim population, Malviya Nagar is inhabitated by business class people and teachers particularly, Bani Park is the area of rich or upper wealth quintile population, Mansorover (SFS colony) is inhabited by retired people and Jhalana area is largely inhabited by population belonging to poor or lower socioeconomic status (SES). Worthwhile to mention that this is a flexible residential pattern; and the selection is based on the observation of the researcher and findings of the pilot survey[3]. In the second stage, from each ward one census enumeration block (CEB) was randomly selected. Further, in the selected CEB, the operation of house listing was carried out. The minimum eligibility criterion for listing of the household was the presence of at least one older person (in the age group 50 years and above) in the household. Further, to maintain the uniformity of sample size (elderly aged 50 years and above) across the CEBs we restricted the house listing to 100 (approximately) anticipating the selection of 80 elderly on an average from each of the CEB. In the final stage, following the systematic random sampling, households were selected from each of the five CEBs using the household list. In case, if there were more than one eligible member in the household i.e. in the age group 50 years and above, all of they were selected for the interview.

3 During the in-depth interviews at the time of pilot survey, elderly were asked about the residential pattern of the city.

Methodology

To assess the depression among elderly, a set of fifteen questions based on the geriatric depression scale (GDS) [18] ranging from 1 (always) to 5 (never) was administered to them; some being positive in nature and other being negative. For instance, elderly were asked if they feel satisfied with their lives; been able to concentrate on whatever they were doing. The depression among elderly is assessed in two dimensions. First, following the scoring pattern of GDS, responses of each of the question was categorized in two categories as yes and no and according to the nature of the question a score of 1 and 0 was assigned. For instance, question 1 deals with the satisfaction of life which is positive in nature and this implies that elderly who feel satisfied with their life do not depict depressive symptom; hence 0 is assigned to the positive response. The scoring pattern is explained in Table (2). It is important to bear in the mind that this scoring pattern is in accordance with the GDS.

Second, an index of depressive symptoms is constructed using Polychoric Principal Component Analysis[4] and categorized in three equal parts as good, moderate and poor which should be understood as good stands for absence of depressive symptoms; moderate as presence of atleast few depressive symptoms and poor as the presence of depressive symptoms. It is worthwhile to mention that the questions given in Table (1) are used to construct the index. However, the responses instead of being dichotomous were recorded in five categories ranging from 1 to 5 irrespective of the nature of the question. Further, while constructing the index the responses were re-coded in three categories to ensure consistency across the values i.e. higher the response depicting absence of depressive symptoms; lower is the assigned value and vice-versa.

Data analysis

The study used uni-variate, bivariate and multivariate analysis to assess depression among elderly and also to understand its socioeconomic patterning.

RESULTS AND DISCUSSION

Assessment of emotional wellbeing of elderly

Table (3) and Figure (1) shows the percent distribution of elderly according to their scores on 15 questions of GDS and accordingly percentage of elderly with depressive symptoms. A score of 0-5 is suggestive of being normal or absence of depressive symptoms while a score of more than 5 is suggestive of depression among respondents. The Table (1) and Figure (1) shows that nearly three fourth of elderly reported absence of depressive symptoms while 25% of them were suffering from depressive symptoms. The result might be encouraging as majority of elderly reported good emotional wellbeing but converting percentages into absolute figure will give the mammoth size of elderly population who need attention and care. A word of caution is that the data is collected from urban parts of Jaipur where the concept of nuclear family set up is in its infancy stage and as suggested by literature loneliness is one of the major

4 It is a multivariate technique that reduces a number of variables in the data set into a small number of components that explain the maximum variability in the data set.

Table 1: Information of selected wards, Urban Jaipur, 2012.

Ward Number	No of Households	Total population	Selected Area
Ward No 17	224	1415	Bani Park
Ward No 27	9177	41058	Mansorover
Ward No 35	11895	58027	Jhalana
Ward No 38	6320	29333	Malviya Nagar
Ward No 54	6919	34534	Ramganj

Note: Information collected from the Directorate of Census Operation, Jaipur office, 2012

Table 2: Responses of elderly for questions of Geriatric Depression Scale, 2012.

S. No	Questions	Response	
		Yes	No
	Do you basically feel satisfied with your life	0	1
	Are you in good spirit most of the time	0	1
	Do you feel happy most of the time	0	1
	Do you prefer to stay at home rather than going out and doing new things	1	0
	Do you think it is wonderful to be alive now	0	1
	Do you feel full of energy	0	1
	Do you drop many of your activities	1	0
	Do you feel your life is empty	1	0
	Do you often get bored	1	0
	Are you afraid something bad is going to happen to you	1	0
	Do you often feel helpless?	1	0
	Do you feel you have more problems with memory than most?	1	0
	Do you feel pretty worthless the way you are now?	1	0
	Do you feel that your situation is hopeless?	1	0
	Do you think most people are better off than you are?	1	0

Source: Yesavage et al., 1983

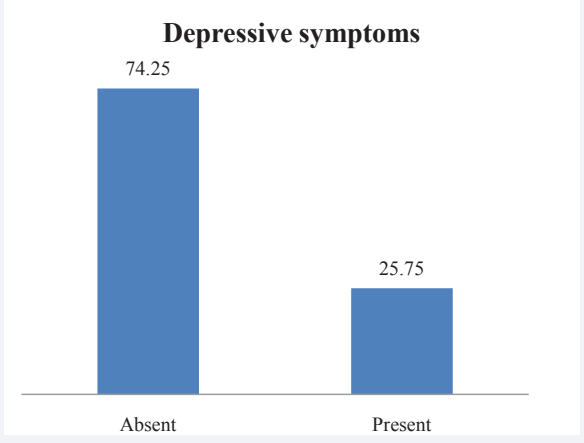

Figure 1 Percentage of elderly according to the presence and absence of depressive symptoms, 2013.

Table 3: Percent distribution of elderly according to their scores on Geriatric Depression Scale, 2013.

GDS Score	Percent	N
0	2.25	9
1	15.00	60
2	19.25	77
3	19.00	76
4	11.75	47
5	7.00	28
6	5.25	21
7	4.50	18
8	3.25	13
9	3.00	12
10	3.25	13
11	2.25	9
12	2.25	9
13	0.50	2
14	1.50	6
Total	100	400

Table 4: Percent distribution of elderly according to their emotional wellbeing across background characteristics, Urban Jaipur, 2013.

Variables	Emotional Wellbeing		
	Good	Moderate	Poor
Age***			
50-59	41.71	34.67	23.62
60+	25.37	31.84	42.79
Gender***			
Male	40.89	41.30	17.81
Female	21.57	20.26	58.17
Education***			
No education	#	#	87.27
Up to Higher Secondary	18.45	32.04	49.51
Graduation	45.65	42.03	12.32
Post Graduation and above	48.08	35.58	16.35
Working Status***			
Currently Working	43.32	36.90	19.79
Retired	35.85	36.79	27.36
Not Working	14.02	23.36	62.62
No of living children***			
1-2 children	45.71	32.00	22.29
2+ children	25.25	36.14	38.61
Family type			
Nuclear	31.33	32.53	36.14
Non-nuclear	34.07	33.44	32.49
Religion			
Hindu	35.16	34.42	30.40
Non-Hindu	29.92	30.71	39.37
Caste**			
SC/ST/OBC	28.23	29.03	42.74
Others	35.87	35.14	28.99
Economic Status***			
Poor	13.43	26.87	59.70
Middle	42.86	31.58	25.56
Rich	44.36	41.35	14.29

Notes: #cell frequency is less than 8; ***significant at 99% level of significance; **significant at 95% level of significance

reasons for poor mental health of elderly. Therefore the result should be interpretated keeping in mind these concerns.

Associations of socioeconomic characteristics with depression

The associations of socioeconomic and demographic characteristics with depression among elderly are examined using Pearson's chi-squared tests (Table 4). One fourth of elderly aged 60+ reported absence of depressive symptoms compared to 42% of their counterparts. The stark gender differentials are visible as compared to less than 20% of elderly males reporting depression; it was 58% for elderly females. Similarly, 87% of illiterate elderly were categorized with depression whereas; it was 16% for post graduate elderly. Being economically productive has a positive effect on absence of depressive symptoms among elderly as the percentage of elderly reporting absence of depression was higher among currently working (43%) and retired (36%) elderly compared to elderly who have never been economically productive (14%).

Further, having more than two living children has adverse effect on depression levels than one or two children. Likewise, majority of elderly belonging to deprived caste group (SC/ST/OBC) were categorized with depression (43%) compared to their counterparts (29%). With the improvement in the economic status, the percentage of elderly reporting absence of depressive symptoms also increased from 13% (poor) to 43% (middle) to 44% (rich).

Overall, the results of bi-variate associations tested using chi-squared test suggests that higher age group, being female, lack of education and being economically unproductive, having a larger family size, belonging to deprived caste group and poor economic status are the factors responsible for elderly reporting presence of depressive symptoms.

Cross sectional correlates of emotional wellbeing

The results from generalized ordered logistic regression analysis predicting determinants of depressive symptoms among elderly suggest statistically significant association of age, gender, education, number of living children and wealth (Table 5). For instance, elderly aged 60+ were 0.38 times less likely to enjoy absence of depressive symptoms rather than poor and moderate presence of depression compared to elderly aged 50-59 years. Similarly, elderly with more than two living children were 0.48 times less likely to enjoy absence of depression rather than poor and moderate presence of depressive symptoms compared to their counterparts with one or two children. Likewise elderly females were 0.22 times less likely to experience good or moderate absence of depressive symptoms rather than presence of depression while they were 1.54 times more likely to experience absence of depressive symptoms rather than poor and moderate presence of depression compared to elderly males. On the other hand, literate elderly were 2.91 times more likely to have good or moderate absence of depressive symptoms rather than presence of depression compared to elderly with no education. Similarly, non-poor elderly were 2.37 times more likely to experience good or moderate absence of depressive symptoms rather than presence of depression compared to poor elderly.

Table 5: Generalized ordered logistic regression estimates for predicting the effect of predictors on emotional wellbeing of elderly, Urban Jaipur, 2013.

Variables		Poor	Moderate
Age	50-59 years®		
	60+	0.38***	0.47***
Gender	Male®		
	Female	0.22***	1.54**
Education	Illiterate®		
	Literate	2.91***	2.66**
No of living children	1-2 children®		
	2+ Children	0.68	0.48**
Caste	Others®		
	SC/ST/OBC	1.05	1.08
Wealth	Poor®		
	Non-poor	2.37***	1.68***

Notes: ***p<.01; **p<.05; *p<0.10;
®: reference group

Overall, the results of multi-variate analysis revealed significant positive association of education and economic status and negative association of age and number of living children with presence of depressive symptoms among elderly aged 50+.

CONCLUSION

Population ageing is an emerging demographic phenomenon in India, warranting a strong multi-sectoral policy and programme response to deal with many significant implications for elderly in particular and society at large [19]. For instance, the gradual breakdown of familial support system of elderly needs a replacement to ensure wellbeing of elderly. However, the country lacks institutional framework to promote retirement planning and also it is not the top priority for most Indians despite the fact that it has one of the highest savings rate [19]. Similarly, it is also well established that ageing population suffer from chronic medical conditions and the prevalence of multiple chronic conditions is expected to increase [20]; thereby increasing the number of years to be spent in dis-saving stage which again causes financial stress. All these factors have an adverse effect on health and wellbeing of elderly. There is plethora of research focused on the assessment of wellbeing of elderly; a few of the researchers have measured it as a single index while a few have used composite index measuring effects of ageing on various dimensions of life such as physical health, psychological aspect [11-14,21,22,]. Similarly, this paper, consistent with the literature, made a novel attempt to assess depression among older population aged 50 years and above living in urban India using self-administered questionnaire. In addition, the paper provided detailed account of depressive symptoms among elderly and its socioeconomic determinants.

The association of socioeconomic characteristics and psychological wellbeing has remained a centre of gravity in the field of research. In our study, the bi-variate associations of socioeconomic characteristics with depressive symptoms among elderly strengthened the fact that improving the basic standard of living i.e. improving literacy level, creating job opportunities, adopting small family-size norms and improving the economic status of people can ensure a better mental health in older ages by reducing the presence of depressive symptoms. The results draw support from the findings of Mookherjee [23] who examined the relationship of seven demographic variables i.e. gender, race, marital status, education, financial status, religious membership and religious attendance and six attitudinal variables i.e. satisfaction with neighborhood, hobbies, family life, friendship, health and physical condition and financial situation to psychological well-being of elderly and concluded that marital status, education, financial status and religious attendance were significantly related to perception of well-being.

Further [24] assessed life evaluation in several European, American, Asian, and Latin American countries using cross-sectional surveys over several time periods and found a U-shaped association between age and wellbeing; this finding is often considered as a standard one [25]; however, there are studies with different results [26] . For instance, an analysis of longitudinal data from Britain, Germany and Australia did not find U shape curve after incorporating individual effects [27]. Similarly, we also did not find any such shape as the result suggested that with increasing age elderly were more likely to experience presence of depressive symptoms. In addition, increasing number of living children also depicted similar pattern. This finding raises a question against the customary Indian belief i.e., "*The more the number of children you have, especially sons; better is the wellbeing in old age*." Invariably, elderly with more than two living children did not surpass their counterparts in experiencing less depression.

Hence, considering the rapid changes taking place in the society and huge unmet developmental needs of the country, ensuring wellbeing of elderly is emerging as a formidable task for the policymakers. This paper suggests that by improving the basic structure of the society in terms of education and smaller family size can fetch sometime for policymakers to develop inclusive policies which can provide for adequate infrastructure and institutional framework to cater to their needs. These

provisions however, might not be enough to ensure wellbeing of elderly, particularly emotional wellbeing which is much more a psychological concept but these measures can atleast ensure that their different needs are adequately met which can have a positive effect on their mental health.

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