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Exploring the Determinants of Living Arrangements for Elderly in India

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Abstract

The purpose of this study is to find the socio-economic determinants of elderly living arrangements. In addition to this it also explore the status of elderly living arrangements of India. The study is completely based on secondary data. The data are collected from National Sample Survey Organisation. In order to find the socio-economic determinants, we have used the log linear multivariate cross-sectional regression model. It is found that there is not much disparity of living arrangements between rural and urban areas, but the differentials of the same are marked among the sexes. Among the determinants SDP is positively and significantly associated with all types of living arrangements. Moreover, dependency ratio is positively and significantly associated with living alone and living with spouse and negatively with living with spouse or children or both and with others. In the contrary, life expectancy is negatively related with living alone and living with spouse and positively with living with spouse or children or both and with others. This paper has serious policy implications for the support and care of the elderly in India.

Keywords: Living arrangements, elderly, determinants, regression model, and India.

1. Introduction: In ancient India elderly people plays an important role in family as well as in society. They had enjoyed high status decision making power in the family. They were being cared by family members, especially children and grand-children and others. Gradually, Indian society is moving away from the joint family to the nuclear family system and which have profound serious implications for the support and care of the elderly (Rajan and Kumar, 2003). Among several indicators of the status of the elderly in a society, the living arrangement of the elderly occupies an important place.

The concept of living arrangement refers to the type of family in which the elderly live, the headship they enjoy, the place they stay in and the people they stay with, the kind of relationship they maintain with their kith and kin, and on the whole, the extent to which they adjust to the changing environment (Rajan et al., 1995a). Living arrangement of senior citizens in India is emerging issue in view of the expanding cohort of elderly resulting from increasing life expectancy. Moreover, with the rapid decline in fertility, there is substantial reduction in the number of children to take care of the elderly (Sathyanarayana et al., 2012).

In this regard, (D'Souza, 1989) observed that changes in living arrangements, family structure and mode of retirement adversely affect the old. Further, the old people are in increasing proportion losing the status and security they once enjoyed in traditional Indian society.

In the study of (Agrawal, 2012) found that the living arrangements of the elderly are strongly associated with adverse health outcomes such as asthma, tuberculosis, malaria and jaundice among the elderly. The effect of living arrangements is independent of age, sex, education, living standard, and other environmental and behavioural factors. Elderly living alone are significantly more likely to suffer from these chronic as well as acute ailments than elderly living with their family. Pal and Drive (2004) found that majority of elderly men and women with children tend to coreside with children and enjoy a higher per capita household expenditure compared to non-coresident elderly persons. While ownership of property and financial assets among the elderly tend to enhance the likelihood of coresidence, physical immobility of the elderly tend to reduce it.

Another study by (Kaur et al., 1987) also emphasised the fact that the present generation treated the old people as a burden and that their presence in the family irked most of its members. The status of the aged in the changing social structure has been investigated by social scientists from different perspectives. In the absence of familial support, the elderly often prefer to stay in old-age homes provided they are economically affordable. In India, there are few old-age homes run by the state and central governments for the deprived and the poor elderly. The institutionalisation of the aged has not become popular and these facilities are not accessible to the rural elderly. A survey of old-age homes in Maharashtra by (Dandekar, 1993, 1996) showed that the prime reason for the aged moving into old age homes was the lack of proper care for them within the family. The inmates of the old-age homes expressed satisfaction with their stay there compared with their own homes. This finding gives the impression that old-age homes are serving as alternative caregivers to those who are unable to obtain familial care. Another study on the inmates of old-age homes in Gujarat (Shah, 1993) found lack of care at home to be the prominent reason for their preference to stay in old-age homes. Besides economic reasons, family quarrels were found to have induced the elderly to move into old-age homes. Given this background, present study seeks to explore the various living arraignment of elderly and their determinants.

The study is organised in following manner: Section 2 deals with data and methods, in section 3 we have analysed the results and section deals with discussion. Lastly Conclusions of the study are produced in Section 4.

2. Methodology:

2.1. Data: The study is based on National Sample Survey 60th round (NSS, 2006). The NSSO 60th round is based on the enquiry on morbidity and health care. The enquiry covered the curative aspects of the general health care system in India and also the utilization of health care services provided by the public and private sector, together with the expenditure incurred by the households for availing these services. In addition, results

on problems of the aged persons are also provided separately in the report. It covered the population of 29 states.

2.2. Methods: We have used simple log linear regression model to find out the determinants of specific living arraignments. The following regression equation

$$\ln Y = \alpha + \beta_1 \ln SDP + \beta_2 \ln DR + \beta_3 \ln LE + u \dots \dots \dots (1)$$

Where, Y represents specific living arraignments for elderly. SDP, DR, and LE represent State Domestic Product, Dependency ratio, and Life expectancy respectively. If the coefficient is negative then the variable have negative impact on elderly living arraignment and vice versa. But before estimating the model, first we have to take natural logarithm for all the variables. This is because when we deal with cross sections data, there is a possibility heteroscedasticity¹ problem. So we need to take logarithm to avoid this problem.

3. Results:

3.1 Status of living arrangements of elderly in India: Although India will be the youngest nation in the world by 2020 with a median age of 29 years, the number of elderly people is likely to increase rapidly. The proportion of elderly population was 8.3 percent in 2011 and it is expected to increase to 12.4 percent in 2026 (see Help Age India report, page). The increase in life expectancy, decrease in birth and death over the years has resulted in an increase in the population of the elderly. Such increased in the proportion of elderly have serious influence in the Living arraignments of aged people. The status of the co-residence arrangements among the Indian elderly by sex and place of residence is presented in table-1.

Table1: Distribution of Indian Elderly by Their Differential Living Arrangements (figures are in percentage)

Relationship	Rural		Urban		Total	
	Male	Female	Male	Female	Male	Female
living alone	2.34	6.27	1.57	5.48	2.25	6.19
with spouse only	13.21	7.42	10.26	5.71	12.78	7.27
with spouse and others members	61.37	31.72	66.86	32.9	62.46	31.19
with children	16.86	46.08	15.17	47.96	16.44	46.9
Others	6.22	8.46	6.11	7.91	6.02	8.47

Source: Authors’ own calculation based on NSSO data.

A close perusal of table-1 reveals that, there is not much disparity of living arraignments between rural and urban areas, but the differentials of the same are marked among the sexes. We have seen that more elderly women (6.19 percent) are living alone compared with men (2.25 per cent). One of reasons for such result is that in Indian society generally

¹ Heteroscedasticity is one important assumption of regression. This problem arises is if variance of the errors do not constant across observation.

male married to younger women and thus the number of widow are more than that of widower. At the same time life expectancy for women are more than that of men, this also contributes to increase the number of widow than widower in the society.

The table also reveals that almost half of the elderly lives with their spouses, and other members. Another 34 percent elderly are living with their children and grand-children due to the death of their spouse. Only two categories of residence, namely with spouse and other members, and with children are predominant among the elderly in India. 62.46 percent of the male elderly live with their spouses and other members; this figure for female elderly is only 31.19 percent. On the other hand, 46.9 percent of female elderly are living with their children, and only 19 per cent of males are living with their children.

Moreover, the living arraignment of elderly also are influenced by change in region. The status of the co-residence arrangements among the Indian elderly by sex and region is presented in table-2.

Table-2: living arraignment with Specific Relationships to Head of Household, by Region and Gender (figures are in percentage)

Relationship	north east	central	east	west	south	North
MALE						
living alone	1.78	3.26	2.50	2.23	2.74	1.95
with spouse only	7.68	15	13.27	17.9	21.02	10.47
with spouse and others members	64.25	55.36	62.62	63.73	60.82	63.77
with children	16.05	19.73	17.05	12.53	12.7	18.97
Others	1.20	3.88	2.15	3.33	2.37	2.84
FEMALE						
living alone	4.07	8.29	4.80	7.36	10.95	5.15
with spouse only	5.08	9.13	6.72	10.03	8.62	7.31
with spouse and others members	32.91	28.7	31.95	29.73	20.62	36.51
with children	45.92	45.33	49.37	43.93	50.55	46.46
Others	3.93	5.89	4.02	8.23	8.45	3.52

Source: Authors' own calculation based on NSSO data.

It is found that more male are living alone in Central region followed by East and West. But, in case of female the highest percent (10.95 percent) is obtained in southern region. We also observe that more than 60 percent elderly male are living with spouse and other members in all region except central region where the figure is 55.36 percent. Furthermore, the percentage of elderly living with children is highest in Central and lowest in West. In contrast more than 45 percent females are living with their children in all regions except West (43.93 percent), and the highest and lowest proportion of elderly female are living

with spouse and other members are observed in North (36.51 percent) and South (20.62 percent) respectively.

3.2. Determinants of elderly living arrangements: We now report an analysis that sought to determine the factors responsible for changes in the living arrangements of elderly. For this purpose we have selected only those for which an association with living arrangements of elderly and was supported by the literature. The summary statistics along with the specification of the included regressors is presented in table3.

Table3: Description and summary statistics of variable determines the elderly living arrangements

Variables	Description	Mean (SD)
SDP	Net State Domestic Product (NSDP) is defined as a measure, in monetary terms, of the volume of all goods and services produced within the boundaries of the State during a given period of time after deducting the wear and tear or depreciation, accounted without duplication.	913.13 (671.73)
Life expectancy	Refers to the number of years a person is expected to live based on the statistical average.	63.49 (4.30)
Dependency ratio	A measure showing the number of dependents (over the age of 60) to the total working population (aged 15-59)	13.18 (1.53)

After having the detailed analysis of independent variables, we now explore the relationship between living arrangements and all explanatory variables. But, in order to avoid the problem of heteroscedasticity related to cross section data, first we have to take logarithm for all the variables. We have applying the multivariate cross-sectional regression model, in order to find the relationship between socio-economic variables and living arrangements. Finally, regression results of the determinant of specific living arraignment are summarized in table 4.

Table-4: Regression results of determinant of specific living arraignment

Dependent variables	Living Alone	Living with spouse	Living with spouse or children or both	With others
Constant	19.15**	6.40	2.91**	2.75**
lnNSDP	0.53**	0.24**	0.05**	0.05**
lnDR	2.83**	1.98**	-0.33*(0.43)	-0.25*
lnLE	-6.88**	-2.60**	0.64*(0.47)	0.64**
ANOVA				
R ²	0.5130	0.4501	0.3526	0.4108
Adjusted R ²	0.5017	0.4070	0.3012	0.4003
F(3, 16)	5.62** (Prab>F=0.007)	4.37** (Prab>F=0.01)	2.90* (Prab>F=0.06)	3.72** (Prab>F=0.033)

Note: **; * represents 5% and 10% level of significance respectively.

The table reveals the hypothesized link between socioeconomic variables and living arrangements. It is found that the coefficient of SDP is positive and statistically significant for all the indicators of living arrangement. That is when SDP increase by 1 point, living alone, Living with spouse, Living with spouse or children or both, and with others increase by 0.53, 0.24, 0.05, and 0.05 point respectively.

The coefficient of Dependency ratio is positive and significant for the percentage of living alone (2.83) and Living with spouse (1.98). This implies that when old age dependency ratio increases old people are tend to live alone and live with spouse. On the other hand, the coefficient is negative and significant for specific living arrangement like living with spouse or children or both (-0.33) and with others (-0.25).

Another important finding in the table is that the coefficient of Life expectancy is negative and significant for the percentage of living alone (-6.88) and Living with spouse (-2.60) but and significant for specific living arrangement like living with spouse or children or both (0.64) and with others (0.64). These suggest that when people become aged they prefer to live with family members than live alone. Possible reasons for these findings will be reviewed in the Discussion section.

4. Discussion: India is second largest country in the world in terms of population, having 1.2 billion populations (census 2011). Out of the total population, the proportion of elderly population is 8.3 percent in 2011 and which is expected to rise to 12.4 in 2026. The increase in the proportion of elderly, have serious implications in the status of living arrangements. In this paper we have explored the relationship between socio-economic variables and specific living arrangements of elderly. Firstly, we have analysed the pattern of specific living arrangements by sex, place and region. Secondly, we have investigated the determinants of living elderly living arrangements. The results are analysed in the following:

- (a) It is found that there is not much disparity of living arrangements between rural and urban areas, but the differentials of the same are marked among the sexes. In addition to this it is also found that there is substantial variation in the living arrangement of elderly across different regions. This regional variation may be due to the differences in the degree of cultural dissimilarity existing within different regions in India.
- (b) It is found that there are strong and positive associations between SDP and all indicators of living arrangements. But the highest coefficient is obtained for living alone possibility followed by living with spouse and other living arrangements. This may because of the fact that with higher levels of income tend to have larger possibility of having better public social security and health programs by the govt. for the elderly. Moreover, elderly people do not want any kind of interference in their life and prefer to live alone.
- (c) Among the other socioeconomic variables Dependency ratio is positively and significantly correlated with percentage living alone and percentage of Living with

spouse, but is negatively correlated with, percentage living with spouse or children or both and others. This is because when people get old present generation treated the old people as a burden and their presence in the family irked most of its members. As a result of which they forced to live alone.

- (d) Another important finding in the study is that Life expectancy is negatively associated with percentage of living alone and percentage living with spouse and, it is positively associated with, percentage living with spouse or children or both and others. When life expectancy rises, the older people expect some short of care and support from their family. As a result of which in turn decreases the probability of living alone and increases the possibility of older people to coreside with children or with others.

5. Conclusion: From the above discussion it is clear that with the process of development, the Indian society is moving away from the joint family to the nuclear family system and which have profound serious implications for the support and care of the elderly. Based on observation from National Sample Survey Organization (The NSSO 60th round), it is found that about 6.19 percent of female are live alone compare to 2.25 percent for male in India. In this circumstances the economic and social security of the elderly emerges as a major challenge in India. Thus suitable policy measure such as old-age homes, non-governmental organisations and voluntary association etc. needs to be framed to restoring the familial care for the elderly especially for those who do not coreside with children (Rajan and Kumar, 2003).

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