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Pattern of Living Arrangement and Economic Dependence of the Elderly: A Study Based On Eastern Uttar Pradesh, India

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ABSTRACT

The study aimed to study the relationship between various socio-demographic factors and living arrangement of the elderly as well as to study the pattern of living arrangement according to economic dependence. This study is based on a specially designed sample survey of 800 elderly people taken from two different setups of society that is from rural and urban of eastern Uttar Pradesh, India. Results show that factors gender, age, caste and wealth index were significantly related with living arrangement in urban area while in rural area only variable caste and wealth index were significantly related with living arrangement. Moreover, gender, age and caste were significantly related with economic dependence in both urban and rural areas. The study also showed that proportion of those elderly who are economically dependent on self or spouse is higher in living alone or with spouse only in comparison to those who are economically dependent on son/others.

KEY WORDS: Elderly, Living arrangement, Economic dependence.

INTRODUCTION

The concept of living arrangement refers to an organized structure in which social, economic and emotional support is shared by the family members in order to provide a meaning to their coexistence. In India family has been the primary and most important social institution for support and care of elderly since ancient times [3,11]. In Indian tradition it is the duty of a child, particularly a male child to provide support to the parents in their old age [8]. Caring of the elderly by family members has been in practice down the ages. Parents are assumed to possess an important and significant position in the family. Not only they provide care and love to their children and grandchildren they are also reciprocated with emotional and physical support against infirmities and odds of the life which they face in their day to day life. Hence, in the absence of well developed system to provide social services, living arrangement becomes an important constituent of overall well being of the elderly [11].

Living arrangement for the elderly was not an issue a few decades ago in most developing countries, including India, because the elderly were expected to be cared by the family [10,15]. Since then there have been significant changes in the socio-economic and demographic dimensions of Indian society. India is having the fastest growing population of elderly in the world [12,1,6,16,14], while fertility rate is dropping down [5]. According to an estimate world fertility rate has fallen from 5 children per women in 1950 to less than 3 in 2000. There was a continuous decline thereafter to two children per women [19], which means there will be less children for providing care to their elderly parents. Moreover rapid urbanization, influence of western culture and lifestyle and growing individualism, among other factors have had their impact on traditional family system. Indian society is shifting from joint family, where not only a couple and their children, but also other relations either from father's side or from mother's side depending on whether the joint family is patrilineal or matrilineal live under a roof [9] to the nuclear family system where only two generations i.e. married couple and their dependent children live together.

There have been ample of research work conducted in western countries on the issue of living arrangement of elderly but comparatively less attention has been paid to this topic in the developing countries including India. While older population of India is increasing, it will lead to an urgent need for elder care and support, at a time, in India particularly where traditional family based care is less the norm than in past [2] therefore, the living arrangement of elderly becomes one of major aspects of their life to be studied.

The existing literature identifies a number of socio-demographic factors such as age, sex, occupation, education, place of residence, number of children etc. as the important variables that determine the living arrangement of elderly [18,21,7,20]. Therefore, in the present paper we have tried to establish the relationship between various socio-economic and demographic factors and living arrangement of the elderly in eastern Uttar Pradesh.

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Objectives:

To study the relationship between various socio-demographic factors and living arrangement of the elderly as well as to study the pattern of living arrangement according to economic dependence.

MATERIAL AND METHODS

This study is based on a specially designed sample survey conducted during August 2011 to June 2012 in two different setups of the society that is rural and urban area of eastern part of Uttar Pradesh (the largest state in terms of population in India).

Total 800 respondents (400 from each urban and rural area) aged 60 years and above were selected for the study. A multistage stratified random sampling procedure was used to select the sampling units. On the basis of human development index (HDI), districts of eastern Uttar Pradesh were divided into four categories; we randomly selected one district from each category, namely Varanasi, Ghazipur, Sant Kabir Nagar and Deoria. Further the districts were divided into urban and rural area. The rural area of each district was divided into blocks, from each district one block was selected randomly and from each block a village was selected randomly, if the required sample size was not available in that village the researcher visited the adjacent village for data collection. The names of villages as per districts are as follows Varanasi- Chitauni Kot, Ghazipur- Narainpur, Gangavishunpur and Langadpur, Sant Kabir Nagar- Moradpur and Mathurapur and Deoria- Parasia urf Kharjarwa.

For selection of urban sample we selected all the sampling units from urban area of Varanasi. Varanasi is one of the most important cities of eastern Uttar Pradesh, it's an ancient city of India with variety of cultural groups. Large numbers of people from the neighbouring districts of eastern Uttar Pradesh are settled in Varanasi city. Therefore, considering the heterogeneous nature of population of urban Varanasi and for convenience of data collection two urban wards namely Pandeypur and Nariya were selected for the study.

The list of all elderly people residing in the study area was prepared through electoral list. After taking the consent only one elderly respondent was interviewed from one household and if the interviewer was rejected from the respondent he visited the adjacent house for interview.

The data was collected through specially designed interview schedule which consisted three parts;

(1) **Socio-demographic characteristics of respondents:** In this section place of residence (urban/rural), gender, caste, age, educational status and wealth index of the respondents was recorded.

(2) **Living arrangement of the elderly:** In this section elderly respondents were asked with whom they are living at the present time, generally elderly respondents answered (1) living alone, (2) with spouse only, (3) with spouse and children, (4) with spouse, children and grand children and (5) with children, grand children and others. In order to make the statistical analysis convenient we clubbed the first two responses as 'living alone or with spouse only' and all the other responses were clubbed as 'living in co-residence'.

(3) **Pattern of economic dependence:** In this section some questions were asked that on whom they are economically dependent, to which elderly respondents responded as (1) self, (2) spouse, (3) son and (4) others. We further clubbed the first two responses as self/spouse and the last two responses as son/others.

Statistical analysis:

Data analysis was done using SPSS 16.0 version. Univariate analysis was done for each independent variable for rural and urban area separately, cross tabulation analysis and chi square test was also performed at 5% level of significance to find out the association between independent variable and dependent variable, further logistic regression analysis was applied to find out the adjusted effect of each independent variable on dependent variable.

RESULTS AND DISCUSSION

Socio-demographic profile of the elderly in eastern Uttar Pradesh:

According to table 1, out of total sample of 800 subjects, 400 were taken from each urban and rural setups of eastern Uttar Pradesh. Among urban participants 61.2% were male and 38.8% were female however in rural setup there were 51% male and 49% female. The proportion of the elderly respondents was highest in 60-69 years age group in both 52.2% in urban elderly population and 61.2% in rural elderly population. 77% elderly were literate in urban area in comparison to 48.2% in rural area. In urban area majority of elderly belonged to general category (40%) whereas in rural area majority of elderly belonged to OBC category (52%). In the urban area 52%, 23.8% 24.2%of the elderly were in high, medium and low wealth index respectively while 18.8%, 38.8% and 42.5% respectively in rural area.

Pattern of living arrangement of the elderly according to various socio-demographic characteristics:

The NSSO report of 52nd round (1998) [9] shows that 15% elderly in rural area and 12.5% in urban area live alone or with spouse only, however in our study as shown in the table no. 2, 12 % elderly in urban area and 8.8%

elderly in the rural area live alone or with spouse only. Majority of elderly (88% in urban and 91.2% in rural) in both the areas were living in co-residence, whereas only 12% elderly in urban area and 8.8% in rural area were living alone or with spouse only. However Pearson's chi square test showed independency with place of residence.

Further we tried to make a descriptive analysis of the pattern of living arrangement of the elderly according to various socio-demographic characteristics for both the urban and rural areas separately. Chi square test was also performed to find out the significant association between background variables and living arrangements. Results as shown in table no. 3, it was found that gender was significantly associated with living arrangement in the urban area as 16.7% male and 4.5% female were living alone or with spouse only while 83.5% male and 95.5% female were living in co-residence, however no significant association was found between gender and living arrangement in the rural area. Similarly age was also significantly associated with living arrangement only in urban area, where 20.6% elderly in 60-69 years age group were living alone or with spouse only and 79.4% were living in co-residence in comparison to 70+ years age group, where 2.6% elderly were living alone or with spouse only and 97.4% were living in co-residence. Majority of elderly in all three caste groups were living in co-residence in both urban and rural area, however caste was found to be significantly associated with living arrangement only in rural area. Educational status was found to be significantly associated with living arrangement in both the areas as, in the urban area 14.9% literate elderly were living alone or with spouse only in comparison to 2.2% illiterate elderly, while in the rural area 4.1% literate elderly were living alone or with spouse only in comparison to 13% illiterate elderly. Wealth index was also found to be significantly associated with living arrangement in both the areas.

After bivariate analysis all the variables were taken in binary logistic regression analysis to find out the adjusted effect of each independent variable in the presence of other variables. According to table no. 4, in the urban area male elderly (OR=.335) were significantly less likely to live in co-residence in comparison to female elderly, this might be possible because women in India are socially, culturally and financially dependent on men, moreover there are more widows than widowers, due to longer life expectancy of women [4,12]. Therefore female elderly are more likely to live in extended family in comparison to male elderly. Similarly in the urban area significantly higher proportion of elderly in 60-69 years age group (OR=.111) were living alone or with spouse only and less in co-residence in comparison to elderly in 70+ years age group, this is possible because as the age increases people's physical and other abilities start decreasing, which makes them more dependent on others, various studies reported similar findings [10,13,17]. However gender and age both the variables were not found significantly related with living arrangement in the rural area. Though educational status was found to be significantly associated with living arrangement in bivariate analysis, it was not significant in predicting the living arrangement choices when the effect of other variables was controlled. Moreover in the urban area elderly in general caste category (OR=.378) were less likely to live in co-residence in comparison to OBC, while in the rural area SC/ST (OR=.438) were less likely to live in co-residence than OBC. In urban area significantly a low proportion of elderly in medium wealth index (OR=.293) were living in co-residence in comparison to elderly in high wealth index. While in rural area significantly more elderly in medium wealth index (OR=14.370) were living in co-residence in comparison to elderly in high wealth index.

Pattern of economic dependence in the elderly:

Table no. 5 shows the pattern of economic dependence among the elderly according to various socio-demographic characteristics. In the urban area a higher proportion (66.9%) of male elderly were economically dependent on self/spouse and a lower proportion (33.1%) of them were economically dependent on son/others in comparison to female elderly, where only 34.8% of them were dependent on self or spouse and 65.2% were dependent on son/others. While in the rural area 49.5% male elderly were dependent upon self/spouse and 50.5% were dependent upon son/others in comparison to 40.3% dependent on self/spouse and 59.7% dependent on son/others in the female elderly. However chi square shows significant association between gender and economic dependency in urban area only. Only 24.4% urban elderly in 60-69 years age group were dependent on son/others in comparison to 68.6% in the 70+ years age category, similar trend was seen in the rural area where 45.3% elderly in the 60-69 years age group were dependent on son/others in comparison to 70.3% in 70+ years age group. Chi square test shows a significant association between age and economic dependency in both the areas. Proportion of elderly economically dependent on self/spouse was higher in the general caste category in both the areas (urban 74.5% and rural 50.7%) while it was found statistically significant only in the urban area. Literate elderly in both the areas shared higher proportion in dependence on self/spouse (urban 64.9% and rural 54.4%) as well as educational status was significantly associated with pattern of economic dependence in both the areas. Moreover higher proportion of elderly (62% in urban and 53.3% in rural) in high wealth index category were dependent on self/spouse than the other two categories, while it was statistically significant only in urban area.

The results derived from binary logistic regression analysis of the pattern of economic dependence are as given in table 6, male elderly of both areas (urban and rural) were significantly less likely to be economically dependent on son/others in comparison to female elderly as OR is .196 for urban and .529 for rural. Similarly elderly respondents in 60-69 year age group of both areas were significantly less dependent on son/others in comparison to elderly in 70+ years age group as OR is .088 for urban and .197 for rural. In urban area significantly less number of elderly from general caste category (OR=.161) were dependent on son/others in comparison to OBC category, while significantly a higher number of elderly in SC/ST category of both areas were dependent on son/others, OR is 2.460 and 1.898 for urban and rural respectively. Rural elderly in low and medium wealth index were significantly more likely (OR=2.315 & 2.620) to be dependent on son/others in comparison to elderly in high wealth index. However no significant relationship was found between wealth index and pattern of economic dependence in the urban area.

Living arrangement of elderly according to pattern of economic dependence:

As shown in the table no. 7, in the urban area 20.2% elderly economically dependent on self/spouse were living alone or with spouse only and 79.8% of them were living in co-residence, while 2.2% urban elderly economically dependent on son/others were living alone or with spouse only whereas 97.8% of them were living in co-residence. Similar trend followed in the rural area where 16.7% elderly economically dependent on self/spouse were living alone or with spouse only and 83.3% were living in co-residence. Beside this 2.3% elderly economically dependent on son/others were living alone or with spouse only while 91.2% of them were living in co-residence. Chi square test shows a significant association between pattern of economic dependency and living arrangement in both the areas (urban & rural).

Table: 1 Socio-demographic profile of elderly

Socio-demographic characteristics	Urban n=400 (%)	Rural n=400 (%)	Total n=800 (%)
Sex			
Male	245 (61.2)	204 (51.0)	449 (56.1)
Female	155 (38.8)	196 (49.0)	351 (43.9)
Caste			
General	161(40.2)	67 (16.8)	228 (28.5)
OBC	130 (32.5)	208 (52.0)	234 (29.2)
SC/ST	109 (27.2)	125 (31.2)	338 (42.2)
Age group (years)			
60-69	209 (52.2)	245 (61.2)	454 (56.8)
70+	191 (47.8)	155 (38.8)	346 (43.2
Educational status			
Illiterate	92 (23.0)	207 (51.8)	299 (37.4)
Literate	308 (77.0)	193 (48.2)	501 (62.6)
Wealth index			
Low	97 (24.2)	170(42.5)	267 (33.4)
Medium	95 (23.8)	155 (38.8)	250 (31.2)
High	208 (52)	75 (18.8)	283 (35.4)

Table: 2 Pattern of living arrangement of the elderly according to place of residence

Place of residence	Living alone or with spouse only (%)	Co-residence (%)	Total
Urban	48 (12)	352 (88)	400 (100)
Rural	35 (8.8)	365 (91.2)	400 (100)
Total	83 (10.4)	717 (89.6)	800 (100)
P value	0.132		

Table: 3 Living arrangement of elderly in eastern Uttar Pradesh according to various socio-demographic characteristics

	URBAN (%)		RURAL (%)	
Gender	Alone or with spouse only	Co-residence	Alone or with spouse only	Co-residence
Male	41 (16.7)	204 (83.3)	17 (8.3)	187 (91.7)
Female	7 (4.5)	148 (95.5)	18 (9.2)	178 (90.8)
P value =	< 0.001*		.86	
Age				
60-69	43 (20.6)	166 (79.4)	24 (9.8)	221 (90.2)
70+	5 (2.6)	186 (97.4)	11 (7.1)	144 (92.9)
P value =	< 0.001*		.35	
Education				
Illiterate	2 (2.2)	90 (97)	27 (13)	180 (87)
Literate	46 (14.9)	262 (85.1)	8 (4.1)	185 (95.9)
P value =	0.001*		0.002*	
Caste				
General	24 (14.9)	137 (85.1)	2 (3)	65 (97)
SC/ST	10 (9.2)	99 (90.8)	20 (16)	105 (84)
OBC	14 (10.8)	116 (89.2)	13 (6.2)	195 (93.8)
P value =	.32		0.002*	
Wealth index				
Low	8 (8.2)	89 (91.8)	27 (15.9)	143 (84.1)
Middle	19 (20)	76 (80)	2 (1.3)	153 (98.7)
High	21 (10.1)	187 (89.9)	6 (8)	69 (92)
P value =	.02*		< 0.001*	
Total =	48 (12)	352 (88)	35 (8.8)	365 (91.2)

*****Shows significant association on the basis of Pearson's chi square test

Table: 4 Binary logistic regression analysis of living arrangement of elderly in eastern Uttar Pradesh according to various socio-demographic characteristics

	Urban					Rural				
				95% CI for OR					95% CI for OR	
Gender	Estimate of β	SE of β	Odds ratio	Lower limit	Upper limit	Estimate of β	SE of β	Odds ratio	Lower limit	Upper limit
Male	-1.095	.467	.335*	.134	.836	.162	.420	1.176	.516	2.679
Female	#					#				
Age										
60-69	-2.199	.498	.111*	.042	.295	-.425	.447	.654	.272	1.569
70+	#					#				
Education										
Illiterate	1.066	.855	2.903	.544	15.507	-.694	.575	.500	.162	1.542
Literate	#					#				
Caste										
General	-.973	.487	.378*	.146	.981	.566	.879	1.762	.314	9.876
SC/ST	.309	.530	1.362	.482	3.849	-.826	.418	.438*	.193	.994
OBC	#					#				
Wealth index										
Low	-.910	.691	.403	.104	1.559	.375	.672	1.455	.390	5.433
Medium	-1.226	.475	.293*	.116	.745	2.665	.900	14.370*	2.464	83.796
High	#					#				

*Shows independent variable significantly affect the dependent variable. # Shows reference category in independent variable.
Living alone or with spouse only is reference category in dependent variable.

Table: 5 Pattern of economic dependency among the elderly

	URBAN (%)		RURAL (%)	
Gender	Self/spouse	Son/others	Self/spouse	Son/others
Male	164 (66.9)	81 (33.1)	101 (49.5)	103 (50.5)
Female	54 (34.8)	101 (65.2)	79 (40.3)	117 (59.7)
P value =	< 0.001*		0.06	
Age				
60-69	158 (75.6)	51 (24.4)	134 (54.7)	111 (45.3)
70+	60 (31.4)	131 (68.6)	46 (29.7)	109 (70.3)
P value =	< 0.001*		< 0.001*	
Education				
Illiterate	18 (19.6)	74 (80.4)	75 (36.2)	132 (63.8)
Literate	200 (64.9)	108 (35.1)	105 (54.4)	88 (45.6)
P value =	< 0.001*		< 0.001*	
Caste				
General	120 (74.5)	41 (25.5)	34 (50.7)	33 (49.3)
SC/ST	40 (36.7)	69 (63.3)	46 (36.8)	79 (63.2)
OBC	58 (44.6)	72 (55.4)	100 (48.1)	108 (51.9)
P value =	< 0.001*		.07	
Wealth index				
Low	40 (41.2)	57 (58.8)	70 (41.2)	100 (58.8)
Middle	49 (51.6)	46 (48.4)	70 (45.2)	85 (54.8)
High	129 (62)	79 (38)	40 (53.3)	35 (46.7)
P value =	0.003*		0.21	
Total =	218 (54.5)	182 (45.5)	180 (45)	220 (55)

*Shows significant association on the basis of Pearson's chi square test

Table: 6 Binary logistic regression analysis of pattern of economic dependency among the elderly

	Urban					Rural				
				95% CI for OR					95% CI for OR	
Gender	Estimate of β	SE of β	Odds ratio	Lower limit	Upper limit	Estimate of β	SE of β	Odds ratio	Lower limit	Upper limit
Male	-1.631	.314	.196*	.106	.362	-.636	.244	.529*	.328	.854
Female	#									
Age										
60-69	-2.428	.299	.088*	.049	.158	-1.624	.272	.197*	.116	.336
70+	#									
Education										
Illiterate	.682	.450	1.978	.819	4.780	.404	.279	1.498	.867	2.298
Literate	#									
Caste										
General	-1.824	.358	.161*	.080	.325	.162	.342	1.176	.602	2.298
SC/ST	.900	.425	2.460*	1.069	5.661	.641	.260	1.898*	1.140	3.158
OBC	#									
Wealth index										
Low	-.696	.512	.499	.183	1.359	.839	.383	2.315*	1.093	4.903
Medium	-.038	.361	.963	.474	1.954	.963	.352	2.620*	1.313	5.229
High	#					#				

*Shows independent variable significantly affect the dependent variable.

Shows reference category in independent variable.

Self/Spouse is reference category in dependent variable.

Table: 7 Living arrangement according to pattern of economic dependency

Pattern of dependency	**URBAN**			**RURAL**		
	Alone or with spouse only	Co-residence	Total	Alone or with spouse only	Co-residence	Total
Self/spouse	44 (20.2)	174 (79.8)	218 (100)	30 (16.7)	150 (83.3)	180 (100)
Son/others	4 (2.2)	178 (97.8)	182 (100)	5 (2.3)	215 (97.7)	220 (100)
Total =	48 (12)	352 (88)	400 (100)	35 (8.8)	365 (91.2)	400 (100)
P value=	< 0.001*			< 0.001*		

*Shows significant association on the basis of Pearson's chi square test.

CONCLUSION

It was found that proportion of elderly living alone or with spouse only is slightly higher in urban area in comparison to rural area, we also found that proportion of male elderly living alone or with spouse only in both the areas was higher than female elderly, as well as more elderly in 60-69 years age group were living alone or with

spouse only in comparison to the elderly in 70+ years age group, however in the logistic regression analysis these variables did not show significant relationship with living arrangement in rural area. The study also shows that proportion of those respondents who are economically dependent on self or spouse is higher in living alone or with spouse only in comparison to those who are economically dependent on son/others.

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The authors declare that they have no conflicts of interest in this research.

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