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SOCIO-ECONOMIC DETERMINANTS OF LIVING ARRANGEMENTS OF THE ELDERLY IN COIMBATORE CITY

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In the last century, with industrialisation and economic development, certain demographic changes have been observed in many parts of the world. In view of increasing medical advancements, mortality rates have declined rapidly in higher age groups leading to improved life expectancy. Combined with a comparatively lower birth rate, the old age dependency ratio has increased over the years. This phenomenon is commonly referred to as ageing, and it has certain economic implications for the country, like increase in social security and health expenditure, and the need for new financial instruments. Global population ageing is a by product of the demographic transition in which both mortality and fertility decline from higher to lower levels. Currently, the total fertility rate is below the replacement level in practically all industrialised countries. In the less developed regions, the fertility decline started later and has proceeded faster than in the more developed regions. Yet, in all regions people are increasingly likely to survive to older ages, and once there, they are tending to live longer, as the gains in life expectancy are relatively higher at older ages. The older population is growing at a considerably faster rate than that of the world's total population. In absolute terms, the number of older persons has tripled over the last 50 years and will more than triple again over the next 50 years. In relative terms, the percentage of older persons is projected to be more than double worldwide

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over the next half century. However, notable differences exist between regions in the numbers and proportions at higher ages. Although the highest proportions of older persons are found in the more developed regions, this age group is growing considerably more rapidly in the less developed regions. As a consequence, the older population will be increasingly concentrated in the less developed regions. The young old balance is shifting throughout the world. In the more developed regions, the proportion of older persons already exceeds that of children, and by 2050, it is expected to be double that of children. In the less developed regions, age distribution changes have been slow but will accelerate over the next 50 years.

Currently, the median age in the more developed regions is more than 13 years higher than in the less developed regions and almost 20 years higher than in the least developed countries. (United Nations 2009). Worldwide 901 million people aged 60 or over is, projected to rise to 1.4 billion in 2030 and to 2.1 billion by 2050. About 67% of older persons currently live in developing countries. (World Population Ageing, 2015).

The global demographic trend, however, tells us that, with the passage oftime, the countries have experienced ageing of population. The proportion of olderpersons in the population of a country has increased. Due to economic well-being, better health care system, good medicines, etc. there is a substantial reduction in the mortality in the society. Reduced mortality has led to reduction in fertility too. These factors together have resulted in increasing number of elderly persons in the population. The population ageing, started in the last century with developed countries, is now encompassing developing countries too. India, by no means, is an exception to this phenomenon. Over the years, the structure of population has changed and will further change in the time to come. The proportion of older persons in the population will increase. Population ageing has profound social, economic and political implications for a country. The increasing number of older persons put a strain on health care and social care systems in the country. Old age comes with lot of ailment and diseases. In case of large number of elderly persons in the population, the country needs more and more health and medical services, facilities and resources. More and more number of hospitals, doctors, nurses is required. Government spending on health care is increased with the increase of average age of population.Very old people, due to their reduced mobility and debilitating disabilities need other people to do things for them. With the increasing

trend of nuclear families in the society and with fewer children in the family, the care of older persons in the families gets increasingly difficult. To fulfil caring needs of aged persons more and more nursing people with appropriate skills are required. Social security spending of Government also increases with the increase of old age population. (Government of India, 2016). One such programme to assist the elderly is the National Social Assistance Programme (NSAP), a welfare programme being administered by the Ministry of Rural Development (MoRD) to look into the basic needs of the old aged who lives below poverty line. This programme is implemented in rural areas as well as urban areas. The National Old Age Pension Scheme was renamed as Indira Gandhi National Old Age Pension Scheme (IGNOAPS) and was formally launched on 19th November, 2007. (NSAP, 2016).

The present study is rather a comprehensive inquiry into the economic and living aspects of the beneficiaries of IGNOAPS (Indira Gandhi National Old Age Pension Scheme). A number of studies have been made at the national and state level to measure the efficiency of IGNOAPS (Indira Gandhi National Old Age Pension Scheme) but a few detailed and comprehensive studies have so far been conducted on the impact of IGNOAPS. A few empirical studies conducted on the evaluation of IGNOAPS (Indira Gandhi National Old Age Pension Scheme) provide broad and general information about the target achieved and performance of IGNOAPS (Indira Gandhi National Old Age Pension Scheme) in general;specifically no detailed economic study has so far been conducted of the beneficiaries of IGNOAPS (Indira Gandhi National Old Age Pension Scheme). Keeping in view of the above facts the present study aims at understanding the socio-economic and living arrangements of old aged beneficiaries who had availed IGNOAPS (Indira Gandhi National Old Age Pension Scheme) and compares it with that of non beneficiaries. As no such study has been carried out in Coimbatore city this research will be of great value to the officials, planners and policy makers in identifying the crucial areas of development of aged old. The main objectives of the study are

- To analyse the socio economic background of the sample respondents and
- To analyse the living arrangements of the sample respondents.

Review of Literature

Government of Jammu and Kashmir (2009-10 to 2011-12) in the report on "Evaluation Report on Indira Gandhi National Old Age Pension Scheme (IGNOAPS) Jammu and Kashmir State" had covered 124 villages and 8 urban wards there by covering 1139 sample beneficiaries. The majority of beneficiaries were feeling themselves socially and economically secure as a result of pension being provided to them. About 286 out of 752 beneficiaries were feeling socially secure; otherwise their social position would have been disastrous. Likewise 384 beneficiaries constituting 51 percent of contacted ones expressed themselves economically protected by getting coverage under the scheme. The beneficiary satisfaction level was miserably low in respect of all the different phases/facets of the scheme except the identification process which claimed satisfaction of 64 percent beneficiaries. The process of sanctioning of cases, amount of pension, regularity of payments have claimed the satisfaction of limited number of beneficiaries. From the enquired beneficiaries, 736 which constituted 98 percent of the total were in favour of the scheme to be continued in view of its care taking character.

Jos Chathukulam (2012) in his study on "Evaluation of Indira Gandhi National Old Age Pension Scheme (IGNOAPS) in Puducherry" elucidated that more than 60 percent of the beneficiaries surveyed are women. Majority of the beneficiaries (99.09 percent) and non beneficiaries (85.88 percent) were aware of IGNOAPS (Indira Gandhi National Old Age Pension Scheme). Majority of the beneficiaries (87.77 %) were satisfied with the scheme and 68.28percent reported that the scheme have a positive impact on their life.The awarenessprogrammes are very effective in the puducherry and this may be due to the small geographical size of the state.

In Kerala around 60 percent of the beneficiaries surveyed are women. Majority of the beneficiaries (83.09 percent) and non beneficiaries (89.52 percent) were aware of IGNOAPS (Indira Gandhi National Old Age Pension Scheme). The awareness programmes are very effective in the state of Kerala; this may be due to the overall development indicators of the state. Majority of the beneficiaries reported that the pension amount isvery low and it is disbursed in time. More than 85 percent of beneficiaries are satisfied with the scheme. In rural area83.81 percent are satisfied and in urban area their size is 93.43 percent.Only less than half of the beneficiaries reported that the scheme has a positive impact on their life. It is revealed that the

amount of the pension is very paltry and suggested for an enhancement of the amount so as to meet their daily survival needs.

In Andhra Pradesh about 64.31 percent of the surveyed beneficiaries are females. Satisfaction of the beneficiaries in the scheme and its impact in their life are analyzed. Onlyless than half of the beneficiaries (44%) are satisfied with the scheme and on the same timemore than 17 percent have not made any comment on the rate of satisfaction. One canpresume that the beneficiaries who have kept silent on the issue may be due to thedissatisfaction on the scheme. Same is the case with the question on the impact of thescheme on their life. Majority of the beneficiaries reported that the scheme has no impact ontheir life.

In Karnataka more than 69 percent of the surveyed beneficiaries are woman. More than 65 percent of the beneficiaries are satisfied with the scheme. In rural areamore than 61 percent of beneficiaries are satisfied whereas in urban area 92 percentare satisfied.Around half of the beneficiaries reported that the scheme has a positive impact on theirlife.

In Tamilnadu more than 66 percent of the beneficiaries surveyed are women. Satisfaction of the beneficiaries with the scheme and its impact in their life were analyzed.Majority of the beneficiaries (88.34%) are satisfied with the scheme. In other words, the rate ofsatisfaction of the scheme has been rated as high. And in the case of impact of the scheme ontheir life more than half of the beneficiaries reported that the scheme has some positive impacton their life. As a social security scheme, IGNOAPS (Indira Gandhi National Old Age Pension Scheme) has been appreciated by the beneficiariesand it is capable to make a positive impact on their life, which is openly expressed. The gapbetween the level of satisfaction and the impact of the scheme on the life of the beneficiaries is areal challenge. It can be bridged only by increasing the pension amount. In the case of non beneficiary, 83.09 percent have no source of income. Therefore, theyare fully depending on their children for their day to day life.

Rhiannon Leon (2013) in her study on “India Agrees on Universal Pension” pointed out that the scheme has faced mounting criticism for its small size and low coverage. The scheme covers older people living the below poverty line, which accounts to 20% of India’s estimated 84

million older people. An expanded social pension would undoubtedly improve the lives of older people and their households in India. Evidence demonstrates that even low level social pensions can have a significant impact on older people, contributing to their basic needs, allowing them to invest in ways to earn a living and improving their sense of wellbeing.

Puja Vasudeva Dutta (2008) in his study on "The Performance of Social Pensions in India: The Case of Rajasthan" elucidated that the implementation of IGNOAPS (Indira Gandhi National Old Age Pension Scheme) in Rajasthan was successful. In Rajasthan, in comparison to other schemes, OAP (Old Age Pension) schemes have less incidence of corruption once the beneficiaries are enrolled into the scheme, the pension disbursement schedule is largely timely, the satisfaction levels of beneficiaries is high and there is less leakage of funds. In comparison to other schemes, the study found that eligible beneficiaries had more awareness about the pension schemes, although the full details were not known.

Studies enumerated above covered various dimensions. Based on the literature reviewed and inference drawn the researcher found that the earlier studies had not concentrated much on the economic and living aspects of the beneficiaries. This research gap made the investigator analyse the economic and living arrangements of the beneficiaries and compared with that of the non beneficiaries.

Profile of Coimbatore City

Coimbatore District in the Kongu Nadu region of the state of Tamil Nadu. Coimbatore is the administrative headquarters of the district. It is one of the most industrialized districts and a major textile, industrial, commercial, educational, information technology, healthcare and manufacturing hub of Tamil Nadu. The region is bounded by Tiruppur district in the east, Nilgiris district in the north, Erode district in the north-east, Palghat district neighbouring state of Kerala in the west and south respectively. Coimbatore District is one of the most affluent and industrially advanced districts of Tamil Nadu in India. It has the highest GDP (Gross Domestic Product) among the districts of Tamil Nadu, even ahead of the state capital Chennai. The headquarters of the district is Coimbatore, the second largest city in Tamil Nadu, the higher revenue yielding district in the state next to Chennai.Coimbatore District has 2 Revenue

Divisions, 8 Taluks, 33 Firkas and 295 Revenue Villages. In case of local bodies, the District has 1 Corporation, 3 Municipalities, 1 District Panchayat, 12 Panchayat Unions, 44 Town Panchayats and 229 Village Panchayats. The Coimbatore City Municipal Corporation consists of 100 wards. For administrative purpose the Coimbatore Corporation is divided into five zones namely North, South, East, West, Central headed by a chairman. (Coimbatore.nic.in, 2016).

Selection of the sample

In this study about 500 beneficiaries and non beneficiaries were selected. Based on random sampling from each zone about 100 sample beneficiaries and non beneficiaries were selected. The statistical tools and techniques used in the analysis are percentage and Logistic Regression.

Limitation

The present study is an exploratory one based essentially on primary data. It is a known fact that primary data has its own limitations. The respondents were reluctant to provide correct details regarding their income and expenditure. The respondents were apprehensive in sharing their socio-economic condition and living arrangements and benefits received from the government inspite of the assurance given by the investigator that the information will be kept confidential. Based on the pilot survey, the questions on ancillary income was omitted from the questionnaire, as the respondents were either not willing to provide the necessary details or do not come under the category.

Findings of the study

The socio-economic and demographic factors have the strongest impact on the living arrangements of the elderly in Coimbatore City. The major socio-economic and demographic variables considered for the analysis were the caste, education, monthly expenditure, economic dependence and number of surviving children of the elderly. The elderly are considered to be ‘Living alone’ if they live alone or with the spouse. Table 1 depicts the socio-economic determinants of living arrangements of elderly.

Table 1: Distribution of Socio-Economic Determinants of Living Arrangements of Elderly

Source: Field Survey, 2016.

Socio Economic Variables	Living Arrangements of Elderly (%)				Total			
	Living Alone		Living without spouse but with married children		Living without spouse but with grand children		Total	
	Beneficiaries	Non beneficiaries	Beneficiaries	Non beneficiaries	Beneficiaries	Non beneficiaries	Beneficiaries	Non beneficiaries
Caste								
SC (Scheduled Caste)	21 (36)	17 (19)	22 (37)	49 (53)	16 (27)	26 (28)	59 (23)	92 (37)
ST (Scheduled Tribe)	11 (48)	7 (25)	9 (39)	11 (39)	3 (13)	10 (36)	23 (10)	28 (11)
BC(Backward Community)	25 (29)	28 (35)	31 (37)	32 (40)	29 (34)	20 (25)	85 (34)	80 (32)
MBC (Most Backward Community)	32 (39)	20 (40)	34 (41)	23 (46)	17 (20)	7 (14)	83 (33)	50 (20)
Level of Education								
Illiterate	69 (37)	46 (29)	71 (39)	81 (50)	44 (24)	34 (21)	184 (73)	161 (64.4)
Primary School	5 (28)	8 (25)	7 (39)	17 (53)	6 (33)	7 (22)	18(7)	32 (13)
Middle School	5 (20)	7 (25)	10 (40)	10 (36)	10 (40)	11 (39)	25(10)	28(12)
High School	4 (31)	7 (32)	4 (31)	6 (27)	5 (38)	9 (41)	13(6)	22 (8)
Higher secondary	6 (60)	4 (57)	4 (40)	1 (14)	0 (0)	2 (29)	10 (4)	7 (2)
No. of Surviving Children								
0	12 (100)	15 (100)	0	0	0	0	12 (4.8)	15 (6)
1	19 (21)	22 (26)	48 (53)	34 (40)	23 (26)	29 (34)	90 (36)	85 (34)
2	25 (31)	19 (21)	41 (51)	47 (53)	15 (18)	23 (26)	81 (32.4)	89 (35.6)
3 and above	20 (30)	17 (28)	12 (18)	28 (46)	35 (52)	16 (26)	67 (26.8)	61 (24.4)
Monthly Expenditure (Rs.**)**								
Less than Rs.500	53 (34)	41 (26)	67 (43)	74 (46)	35 (23)	46 (28)	155 (62)	161 (64.4)
Between Rs.501 to Rs.1000	11 (22)	11 (29)	22 (45)	17 (45)	16 (33)	10 (26)	49 (19.6)	38 (15.2)
Between Rs.1001 to Rs.1500	9 (32)	9 (38)	12 (43)	8 (33)	7 (25)	7 (29)	28 (11.2)	24 (9.6)
Greater than Rs.1501	9 (50)	10 (37)	6 (33)	12 (44)	3 (17)	5 (19)	18 (7.2)	27 (10.8)
State of Economic Dependence								
Not dependent on others	55 (100)	78 (100)	0	0	0	0	55 (22)	78 (31.2)
Partially dependent on others	0 (0)	0 (0)	76 (74)	38 (76)	27 (26)	12 (24)	103 (41.2)	50 (20)
Fully dependent on others	0 (0)	0 (0)	64 (70)	97 (80)	28 (30)	25 (20)	92 (36.8)	122 (48.8)

Among the beneficiaries, about 34 percent of the respondents belongs to backward community, about 33 percent belongs to most backward community, about 23 percent belongs to scheduled caste and 10 percent from scheduled tribes. About 73 percent of the total beneficiaries are illiterate. It is found that 10 percent had completed middle level of education, about 7 percent had studied up to primary school, about 6 percent had studied up to high school and only 4 percent had completed their higher secondary education. About 36 percent of the beneficiaries had one child. About 32.4 percent are having two children but those elderly living alone was 31 percent. About 26.8 percent are having more than three children but only 30 percent beneficiaries are living alone. About 4.8 percent of the beneficiaries did not have a child. About 62 percent of the respondents spent an amount of less than Rs. 500 for food and other necessities, about 19.6 percent spent an amount of Rs. 501 to Rs. 1000, about 11.2 percent spent an amount of Rs. 1001 to Rs. 1500 and those who spent an amount of above Rs. 1501 was 7.2 percent. In the case of state of economic dependence, about 41.2 percent of the beneficiaries were partially dependent on others but 36.8 percent are fully dependent on others; about 22 percent of the beneficiaries did not dependent on others. Among the non beneficiaries, about 37 percent of the respondents belongs to scheduled caste, about 32 percent belongs to backward community, about 20 percent belongs to most backward community and 11 percent belongs to scheduled tribes. About 64.4 percent of the non beneficiaries are illiterate. It is found that 13 percent had completed primary level of education, about 12 percent had studied middle school, about 8 percent had studied up to high school and only 2 percent had completed their higher secondary education. About 35.6 percent are having two children but those elderly living alone was 21 percent. About 34 percent of the non beneficiaries had one child. About 24.4 percent are having more than three children but only 28 percent of non beneficiaries are living alone. About 6 percent of the non beneficiaries did not have a child. About 64.4 percent of the respondents spent an amount of less than Rs. 500, about 15.2 percent spent an amount of Rs. 501 to Rs. 1000, about 9.6 percent spent an amount of Rs. 1001 to Rs. 1500 and 10.8 percent spent an amount greater than Rs.1501. In the case of economic dependence, about 48.8 percent of the respondents are fully dependent on others, about 20 percent of the respondents are partially dependent and 31.2 percent of the non beneficiaries did not dependent on others.

Logistic Regression

Logistic regression is an extension of linear regression used to predict dichotomous dependent variable. It is applied when the relationship between dependent variable and independent variables (s) is nonlinear. Linearity is considered to be in logit. Logistic regression predict likelihood that Y =1 and not 0 given certain values of X. This implies that if X and Y are linear related, probability of Y =1 increase as value of X increases, interest is to predict probabilities rather than the scores of dependent variables. WherebyY is the 0 or 1 outcome for the i^{th} case and, $x_{i1...}x_{ip}$ are the values of the predictor variables for the i^{th} case based on a sample of n cases. The use of Y_i and $1\text{-}Y_i$ as exponents in the equation above included in the likelihood the appropriate probability term dependent upon whether $Y_i = 1$ or $Y_i = 0$ are categorical variables and were dummy coded 0, 1. (Peter Josephat, 2012).

Logit (p) $$= \log\left(\frac{p(y=1)}{1-(p=1)}\right) = \beta_0 + \beta_1 x_{i2} + \beta_2 \cdot x_{i2} + \_ + \beta_p \cdot x_{in}$$

For i = 1…n.

$$logit(p) = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_kX_k$$

Where p is the probability of presence of the characteristic of interest.

Dependent variable

X_1 Living status. If living alone ‘0’, living with co-existence ‘1’.

Independent variables

X_2 caste

X_3 education

X_4 number of surviving children

X_5 monthly expenditure

X_6 state of economic dependence

X_7 status of the respondents.

The socio-economic variables for the two groups were examined using logistic regression model. The dependent variable was living status and it was dichotomized with a value of ‘1’ if the aged respondents are living with kith and kin and ‘0’ if living alone. The measurement of variables

like caste, education and state of economic dependence were entered in the model as dummy variables. For caste, value 1 was assigned for scheduled caste, 2 for scheduled tribes, 3 for backward community and 4 for most backward community. Similarly for education also dummy variables were used, zero for illiterate, 1 for primary school, 2 for middle school, 3 for high school and 4 for higher secondary school level. Finally for state of economic dependence, 1 was assigned for not dependent on others, 2 for partially dependent on others and 3 for fully dependent on others. The other variables like expenditure and number of surviving children were placed as continuous variables. The following tables present Omnibus tests of model coefficients, Hosmer and Lemeshow test model summary, classification table and variables in equation.

Table 3:Omnibus Tests of Model Coefficients

		Chi-square	**df**	**Sig.**
Step 1	Step	413.213	7	.000
	Block	413.213	7	.000
	Model	413.213	7	.000

Table 4: Model Summary

Model Summary			
Step	**-2 Log likelihood**	**Cox & Snell R Square**	**Nagelkerke R Square**
1	270.102 (a)	.562	.755
A estimation terminated at iteration number 8 because parameter estimates changed by less than .001.			

Table 5: Hosmer and Lemeshow Test

Hosmer and Lemeshow Test			
Step	**Chi-square**	**df**	**Sig.**
1	6.915	8	.546

Table 6: Classification Table

	Observed		Predicted		
			Living		
			.00	1.00	Percentage Correct
Step 1	Living	**.00**	264	21	92.6
		1.00	37	178	82.8
		Overall Percentage			88.4
A the cut value is .500					

Table 7: Variables in the Equation

Variables in the Equation							
	Category	**B**	**S.E.**	**Wald**	**df**	**Sig.**	**Exp (B)**
Step 1 (a)	State of economic dependence	-5.778	.766	56.940	1	.000	.003
	Education	.460	.162	8.024	1	.005	1.584
	Number of Surviving children	.677	.152	19.944	1	.000	1.969
	Caste	.375	.134	7.825	1	.005	1.456
	Monthly Expenditure	.000	.000	.254	1	.614	1.000
	Status of the respondents	-2.931	.810	13.080		.000	.053
	Constant	12.285	2.283	28.955	1	.000	216418.749
A Variable(s) entered on step 1: state of economic dependence, education, number of surviving children, caste, expenditure, status of the respondents.							

The Chi Square has 7 degrees of freedom, a value of 413.213 and a probability of P<0.0000. Thus, it clearly indicates that the model has a good fit. Hosmer and Lemeshow goodness of fit was not significant at 0.05 revealing that there were no discrepancies between the observed and

predicted classification. These two goodness of fit measures support the acceptance of the model as a significant logistic regression model for predicting the living status of the elderly. The model summary provides the Cox and Snell's R Square. About 56 percent of the variation in the dependent variables is explained by the logistic model. The Nagelkerke R Square modification ranges from 0 to 1 is a more consistent measure of relationship. Nagelkerke R Square is normally higher than the Cox and Snell's R Square measure. Nagelkerke R Square is 0.755 indicating a strong relationship of 75 percent between the predictors and the prediction. Apart from goodness of fit statistics, the proportion of cases classified correctly should be observed. In this study 88.4 percent were correctly classified which is an acceptable value. The variables in the equation table predict the odds. The Wald statistics and associated probabilities provide an index of the significance of each predictor in the equation. If the significance of Wald is less than .05 then reject the null hypothesis as the variable does make a significant contribution to the prediction. The negative co-efficient for state of economic dependence indicates that the odds of living alone declines with an increase in state of economic dependence that is the elderly might be partially or fully dependent.The odds of elderly living alone decrease by a factor of 0.003. But with each unit increase in education, surviving children and caste are associated with an increase in the odds of living alone by a factor of 1.584, 1.969 and 1.456 respectively. If the elderly is a beneficiary then the probability for living alone decreases by a factor of 0.053. Other variable like expenditure were not significant in predicting the living arrangements of the elderly.

Conclusion

The number of children significantly influenced the elderly in living alone. Income was significant in determining the living arrangements of the elderly. If they are economically independent the chances of living alone is more. Policies should be framed in order to address the welfare of the elderly. The number of children significantly influenced the elderly in living alone. Similarly the elderly with higher education had the tendency to live alone when compared to those who had no or few years of schooling. Caste too had greater influence on the living status of the elderly.

Suggestions

- Pension amount should be increased to maintain a reasonable standard of living.

- Adequate infrastructural facilities like housing schemes, medical facilities should be stepped up to maintain the living status and health conditions.
- To take stringents action against the children to who refuses to take care of their parents.

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