Implications of Living Arrangement on Mental Health of Elderly in Kerala

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Abstract

A distinguishing feature of ageing in India is the significant interstate disparity in terms of both levels and growth of the elderly population depending upon the pace of demographic transition in the states. The highest proportion of elderly among states and union territories is located in Kerala. Ageing is a progressive and cumulative process of psycho-physical change occurring over time and affected by a variety of factors. In Kerala, the family has been the traditional social institution for the support and care of the elderly. The present study explores the implications of living arrangements of the elderly on their psychological well-being. To measure the psychological well-being of the elderly four main indicators like Loneliness, Psychological distress, Cognitive impairment and Subjective well-being Inventory among the elderly are analysed. The present study is based on a household level survey of the elderly on a sample basis both from rural and urban areas of Kerala. Multi-stage random sampling technique was adopted and a total of 2500 elderly persons were selected from 1667 households. In the present study, the feeling of loneliness among the elderly is analyzed with the help of three components such as feeling of lack of companionship, feeling of left out and feeling of isolated. The General Health Questionnaire-12 (GHQ-12) is used as an instrument for screening psychological distress among elderly which helps early detection for people at risk of mental illness. Cognitive function was assessed by using Mini-Mental State Examination which is a

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standardized scale and it includes tests of orientation, attention, memory, language and visual-spatial skills. The Subjective Well Being Scale developed by Nagpal and Sell (1985) was used to measure well being of the elderly population which consisits of nine life satisfaction items. The primary finding of the present study is that there is significant association between type of living arrangement and psychological wellbeing among the elderly. The pattern of living arrangement points that weak subjective well being is highly associated with the cases of elderly who are living alone. Living arrangement is supposed to have the responsibility of caring for the elderly which is very fundamental for planning, designing and evaluation of policies supporting to the elderly.

Introduction

Ageing is a biological process, experienced by mankind in all times. However, concern for the ageing of population has stimulated due to significantly large increase in the number and proportions of aged persons in the society. In demographic terms, population is said to be ageing when the proportion of people in the older age range increases and the share of children and youth decreases, resulting in an ascending median age. The pace of population ageing is much faster than in the past. Ageing is a highly complex and variable phenomenon. It is multidimensional and multidirectional in the sense that there is variability in the rate and direction of change in different characteristics for each individual and between individuals. UNFPA's India Ageing Report 2017 reveals that the percentage of beyond 60 population could rise from 9 per cent of the total population in 2015 to 19 per cent in 2050 to 34 per cent by the end of the century. A distinguishing feature of ageing in India is the significant interstate disparity in terms of both levels and growth of the elderly population depending upon the pace of demographic transition in the states. The highest proportion of elderly among states and union territories is located in Kerala.

The health and well- being of the elderly are affected by many aspects of their physical and social environment. These include lifestyle, marital Janasamkhya, Vol. XXXVI - VII, 2018 - 19 status, family support and social networks income, work and living arrangements (Norris et al. 2008). Ageing is a progressive and cumulative process of psycho-physical change occurring over time and affected by a variety of factors. The marital status of the elderly assumes special significance in the context of care in old age. Older people face some difficulties like forgetfulness, learning difficulty, withdrawal from activities, poor adjustment capacity and breaking of traditional joint families. This gives them a feeling that they are not wanted and are a burden on the children. This leads to depression and the feeling of loneliness. Memory loss is common in old age due to the decrease in speed of information being encoded, stored, and retrieved. It takes more time to learn new information. Psychological well-being, an important indicator of successful ageing, was conceptualized for assessing mental health across the dimensions of overall quality of life, positivity, perceived happiness, and lack of loneliness among older adults (Shiovitz-Ezra, 2009). In Kerala, the family has been the traditional social institution for the support and care of the elderly. Changes such as a reduction in the number of children a couple have a higher life expectancy, greater involvement of younger women, who have been the chief caretakers of the elderly, in economic activities outside the home, physical separation of parents and adult children due to urbanisation and age, selective rural to urban migration, spread of western culture and lifestyle, and growing individualism, among the other factors have had their impact on the traditional family system (Rajan, 2003; Nair and Anjana, 2016). Living alone or living with spouse is the most common form of living arrangement found in the developed countries and residing with children is the most common pattern in the developing countries (UN, 2005). Patel (2018) estimated the prevalence of cognitive dysfunction among the elderly and found that social support in the form of living with spouse with/without children had a protective association with cognitive impairment.

The elderly expect economic, social and emotional support from family members as their economic productivity and physical strength decline with

advancing years. Thus, the living arrangement becomes an important constituent of the overall well-being of the elderly and provides some indication of the level of psychological well being. Most of the studies on ageing concentrated on socio-economic and health aspects of ageing in India, particularly in Kerala. The present study explores the implications of living arrangements of the elderly on their psychological well-being.

Data and Methods

The present study relies on primary data. It is based on a household level survey of the elderly on a sample basis both from rural and urban areas of Kerala. Multi-stage random sampling technique was adopted. After considering the concentration of the elderly population, Thiruvananthapuram (urban) and Pathanamthitta (rural) in south zone, Ernakulam (urban) and Thrissur (rural) in central zone and Kozhikode (urban) and Kannur (rural) in north zone were selected. One ward each from the selected districts was identified and a total of 2500 elderly persons were selected from 1667 households. The survey has been conducted with the help of a structured interview schedule which is installed in Tabs and the survey has been conducted with the help of these Tablets, at the household level and individual level. To assess living arrangements, five mutually exclusive and exhaustive categories are considered, (1) Living alone, (2) Living with spouse, (3) Living with spouse and children, (4) Living with children only(5)Living with others including relatives or non-relatives.To measure the psychological well-being of the elderly four main indicators like Loneliness, Psychological distress, Cognitive impairment and Subjective well-being Inventory among the elderly are analysed.

Analysis

Living arrangement of elderly

The term living arrangements or co-residential arrangements refers to the household structure of the elderly (Palloni, 2001). In Kerala, the pattern of living arrangement varies among the elderly. Living alone, living with Janasamkhya, Vol. XXXVI - VII, 2018 - 19

spouse, living with spouse and children, living with children only are the most common form of living arrangements found in Kerala. Age is an important factor influencing the living arrangement of the elderly since as the person grows older; their dependency on others will increase. Table 1 presents the pattern of the living arrangement according to the age and sex of the elderly. Naturally, the proportion of elderly living with their spouse is decreasing with the increasing age of the elderly. The percentage of elderly who lives with their spouse in the age group 60-69 is 34.9 and this proportion reduces to 32.6 per cent in the 70-79 age group and 12.0 per cent in 80+. The survey result shows that with the increase in age of the elderly, they tend to live with their children. The percentage of the elderly who are living with their children only in the age group 60-69 is 15.9 and increases with the age group 70-79 (24.7) and 80+ age (46.7). This is because as the person gets aged they are more likely to be at the stage of widowed and also needs care from family members because of their adverse health conditions. The percentage of elderly of those who live with their spouse and children is 34.8 per cent in the 60-69 age group, but in the 70-79 and 80+ age group it is 28.0 and 27.5 respectively. Age-wise distribution also shows that the proportion of living alone has no wide variation. This category needs special care and attention as they are more likely to be isolated. Not much differential is observed in age-wise distribution of the elderly living with others. χ^2 test proves that age and sex are significantly associated with the pattern of living arrangement. Sex ratio is always favourable to women in Kerala. This is reflected in the case of older persons also. There are notable differences in the living arrangements of older men and women. About forty per cent of older men live with their spouse only but in females, it is 23.7 per cent. Only 7 per cent of the older men are living with children only, when compared to females this is very low, while nearly 43 per cent of older men live with their spouse and children, but among women, the corresponding figure is nearly 24 per cent. This difference in the living arrangement is because women are more likely to be widowed than men and usually they prefer to live with children.

Among the elderly living alone and living with others, the proportion of females is higher. Studies conducted earlier also showed that older women are likely to live alone than older men (Chaudhuri, 2009; Rajan, 2006). It can also be seen that more than 82 per cent of the men either live with their spouse or along with spouse and children, while among elderly women it is only about 48 per cent.

Living						
Arrangement	60-69(%)	70-79	(%)	80+(%)	Total(%)	
Alone	106(7.9)	67	7(9.1)	29 (6.9)	202(8.1)	
With spouse	471 (34.9)	239(32.6)	50(12.0)	760(30.4)	
With children only	215 (15.9)	181(24.7)	195(46.7)	591(23.6)	
With spouse and children	469(34.8)	205(28.0)		115(27.5)	789(31.6)	
With others	88(6.5)	41	(5.6)	29 (6.9)	158(6.3)	
Total	1349(100.0)	733(100.0)		418 (100.0)	2500(100.0)	
Living	Sex**					
Arrangement	Male(%)		Female(%)		Total(%)	
Alone	59(5.8)		143(9.6)		202(8.1)	
With spouse	408 (40.2)		352 (23.7)		760(30.4)	
With children only	71(7.0)		520 (35.0)		591(23.6)	
With spouse and						
children	432 (42.5)			357 (24.1)	789(31.6)	
With others	46 (4.5)		112 (7.5)		158 (6.3)	
Total	1016 (100.0)		1484 (100.0)		2500 (100.0)	

Table 1 Distribution of the elderly by living arrangement, age and sex

**p<.05

It is seen that the number of widows among elderly living alone (93) is higher in the study population compared to widowers (17). But, when considering the distribution of the elderly by the living arrangement, it is seen that proportion of widowers (25.4%) who are living alone is higher than that of widows (Table 2). Further, among the currently married male elderly, the proportion of those elderly stays with spouse or spouse with children is higher in comparison with that of currently married females.

Marital status of Elderly								
Arrangement	curre mai	ently rried	never n /divo	narried rced	Widowed		Total	
	Male(%)	Female(%)	Male(%)	Female(%)	Male(%)	Female(%)	Male(%)	Female(%)
Alone	14	17	28	33	17	93	59	143
	(1.6)	(2.1)	(44.4)	(28.7)	(25.4)	(16.5)	(5.8)	(9.6)
With spouse	406	354	0	0	0	0	406	354
	(45.8)	(43.7)	(0.0)	(0.0)	(0.0)	(0.0)	(40.0)	(23.8)
With children only	28	70	1	7	45	440	74	517
	(3.2)	(8.9)	(1.6)	(7.0)	(67.2)	(78.5)	(7.3)	(35.0)
With spouse and children	432	357	0	0	0	0	432	357
	(48.8)	(44.1)	(0.0)	(0.0)	(0.0)	(0.0)	(42.5)	(24.0)
With others	6	10	34	75	5	28	45	113
	(0.7)	(1.2)	(54.0)	(64.3)	(7.5)	(5.0)	(4.4)	(7.6)
Total	886	808	63	115	67	561	1016	1484
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Table 2 Sex- wise distribution of the elderly by livingarrangement and marital status

Loneliness

Loneliness is defined as a feeling of emptiness, deprivation or sadness. As our population ages, more and more senior citizens suffer from loneliness. Loneliness is a growing public health concern for people at older

ages. In the present study, the feeling of loneliness among the elderly is analyzed with the help of three components such as feeling of lack of companionship, feeling of left out and feeling of isolated. Fig.1 shows that 7.3 per cent of the elderly always feel lack of companionship and 32.6 per cent feel it occasionally. But a higher per cent (60.1) never have the feeling of lack of companionship. It is also revealed that 6.8 per cent of the sample had the feeling of left out always from the family (Fig. 2) and 32.6 per cent felt it occasionally. About 61 per cent never have that feeling of left out from the family. Similarly, 64.4 per cent of the respondents reported that they have no feeling of isolation from the family or society (Fig. 3). But 7.2 per cent have the opinion that they are always isolated and 28.4 per cent of the elderly occasionally have the feeling of isolation.

Lack of Companionship

Table 3 shows the distribution of the elderly according to the feeling of lack of companionship by age, sex and living arrangement. From the table, it can be seen that the three categories of feeling lack of companionship (never, occasionally and always) are more or less same in the three different age groups of the elderly except a slight decline in the never category along with age. It decreases 61.4 per cent from the age group 60-69 to 57.9 per cent in 80+ age. Sex wise analysis indicates that women were more likely than men to report a lack of companionship. Among the females, 8.5 per cent always have the feeling of lack of companionship while among males it was 5.5. The per cent of the elderly never have the feeling of lack of companionship is the highest among those living with spouse and children (67.6 per cent) followed by the elderly living with a spouse (64.9 per cent). But among elderly living alone, 23.3 per cent always felt that they had lost their companion and this percentage is higher compared to the other status of living arrangements. Only 2.3 per cent of the elderly living with spouse and children reported that they are always on the feeling lack of companionship. However, 36.6 per cent among elderly who are living alone, reported that they never had a feeling lack of companionship.







Age	Lack of Companionship							
	Always (%)	Occasionally(%)	Never(%)	Total(%)				
60-69	84(6.2)	437(32.4)	828(61.4)	1349(100.0)				
70-79	63(8.6)	237(32.3)	433(59.1)	733(100.0)				
80+	35(8.4)	141(33.7)	242(57.9)	418(100.0)				
Total	182(7.3)	815(32.6)	1503(60.1)	2500(100.0)				
Sex**								
Male	56(5.5)	318(31.3)	642(63.2)	1016(100.0)				
Female	126(8.5)	497(33.5)	861(58.0)	1484(100.0)				
Total	182(7.3)	815(32.6)	1503(60.1)	2500(100.0)				
Living Arrangements	· ·**	•						
Alone	47(23.3)	81(40.1)	74(36.6)	202(100.0)				
With spouse	48(6.3)	218(28.8)	492(64.9)	758(100.0)				
With children only	49(8.2)	226(38.0)	320(53.8)	595(100.0)				
With spouse								
and children	18(2.3)	238(30.2)	533(67.6)	789(100.0)				
With others	20(12.8)	52(33.3)	84(53.8)	156(100.0)				
Total	182(7.3)	815(32.6)	1503(60.1)	2500(100.0)				

Table 3 Distribution of elderly by lack of companionship according toage, sex and living arrangement

**p<.05

Left Out from the Family

Table 4 shows that around 61 per cent of the elderly never thought that they had left out from their family irrespective of age, sex and living arrangement. Also, 32.6 per cent reported that they had occasionally left out from the family and 6.8 per cent had the feeling that they were always left out from the family. In the age group 60-69, 6.0 per cent said they were always Janasamkhya, Vol. XXXVI - VII, 2018 - 19 left out from the family and this proportion also increases with the age. Sex wise analysis indicates a higher percentage of females (7.8 per cent) said they are always left out from the family than males (5.2 per cent). The feeling of left out never from the family is higher among the elderly who are living with spouse and children (67.0 per cent) and it is followed by the elderly who are living who are living with spouse (65.3 per cent). The elderly living alone shows a higher per cent of the feeling of always left out (23.8 per cent) while comparing the other status of living arrangement.

Age	Left out							
group	Always(%) Occasionally(%)		Never(%)	Total(%)				
60-69	81(6.0)	443(32.8)	825(61.2)	1349(100.0)				
70-79	52(7.1)	241(32.9)	440(60.0)	733(100.0)				
80+	36(8.6)	130(31.1)	252(60.3)	418(100.0)				
Total	169(6.8)	814(32.6)	1517(60.7)	2500(100.0)				
Sex**		•		-				
Male	53(5.2)	317(31.2)	646(63.6)	1016(100.0)				
Female	116(7.8)	497(33.5)	871(58.7)	1484(100.0)				
Total	169(6.8)	814(32.6)	1517(60.7)	2500(100.0)				
Living Arrangements**			-					
Alone	48(23.8)	76(37.6)	78(38.6)	202(100.0)				
With spouse	45(5.9)	218(28.8)	495(65.3)	758(100.0)				
With children only	40(6.7)	233(39.2)	322(54.1)	595(100.0)				
With spouse and children	16(2.0)	244(30.9)	529(67.0)	789(100.0)				
With others	20(12.8)	43(27.6)	93(59.6)	156(100.0)				
Total	169(6.8)	814(32.6)	1517(60.7)	2500(100.0)				

Table 4 Distribution of the elderly by the feeling of left out from the family according to age, sex and living arrangement

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**p<.05

Feeling of Isolation

Table 5 shows that 64.4 per cent of the elderly never had the feeling of isolation from the family. As similar to the above both cases there is no wide variation among the three categories of isolation.

Age	Isolation							
group	Always(%) Occasionally(%)		Never(%)	Total(%)				
60-69	85(6.3)	387(28.7)	877(65.0)	1349(100.0)				
70-79	58(7.9)	208(28.4)	467(63.7)	733(100.0)				
80+	38(9.1)	115(27.5)	265(63.4)	418(100.0)				
Total	181(7.2)	710(28.4)	1609(64.4)	2500(100.0)				
Sex**				<u>.</u>				
Male	57(5.6)	268(26.4)	691(68.0)	1016(100.0)				
Female	124(8.4)	442(29.8)	918(61.9)	1484(100.0)				
Total	181(7.2)	710(28.4)	1609(64.4)	2500(100.0)				
Living Arrangement**								
Alone	50(24.8)	68(33.7)	84(41.6)	202(100.0)				
With spouse	48(6.3)	196(25.9)	514(67.8)	758(100.0)				
With children only	44(7.4)	204(34.3)	347(58.3)	595(100.0)				
With spouse and children	17(2.2)	208(26.4)	564(71.5)	789(100.0)				
With others	22(14.1)	34(21.8)	100(64.1)	156(100.0)				
Total	181(7.2)	710(28.4)	1609(64.4)	2500(100.0)				

Table 5 Distribution of elderly by the feeling of isolation from thefamily according to age, sex and living arrangement

**p<.05

Also, the feeling isolation shows a slight increase with age. In the 60-69 age group, 6.3 per cent of the elderly are on the feeling that they are always isolated in their family and it increases to 9.1 in the 80 + age. Among the age group 60-69, 65 per cent had never felt isolation from the family, but it is 63.4 per cent in the oldest old group. Feeling of isolation is more prevalent among females than males as about 38 per cent of females and 32 per cent of males have the feeling of isolation from the family. Males less experience loneliness due to their social contacts and also due to the presence of spouse. Among females, loneliness was most often associated with loss of spouse. The feeling of isolation is seen among elderly irrespective of their living arrangement. Out of the total sample surveyed 35.2 per cent has the problem of isolation. Limited interaction among family members and less social interaction made these people isolated at old age. Among the elderly living alone, 24.8 per cent have the feeling that they are isolated always and 33.7 per cent were isolated occasionally. The elderly living with their spouse and children shows a higher per cent of the feeling of never isolated in the family (71.5 per cent) compared to the elderly with other types of living arrangement.

Generally, the feeling of loneliness increases with the age of the elderly. Also, females suffer more than males. Compared to other living arrangements, those living with a spouse and those living with spouse and children have the feeling of less isolation or loneliness in their family. The tables indicate that the living arrangement of the elderly is significantly associated with the feeling of loneliness.

Psychological distress among elderly

Screening Psychological Distress helps early detection for people at risk of mental illness. The General Health Questionnaire-12 (GHQ-12) is used as an instrument for screening psychological distress among elderly and has shown to have good psychometric properties and reliability for older people. Psychological distress is defined as emotional suffering characterized by the symptoms of depression and anxiety, and sometimes could be tied with somatic symptoms. The General Health Questionnaire (Goldberg, 1988) comprises 12 questions regarding the general level of happiness, the

experience of depressive and anxiety symptoms, perceived stress, and sleep disturbance over the previous four weeks. Each item has a 4-point response scale.For the GHQ, the scoring method (0-0-1-1) is used to sum up the points to a total score ranging between 0 and 12, with a higher score indicating poorer mental health. Based on the 12-item General Health Questionnaire (GHQ-12), Fig. 4 shows that more than half of the elderly are at a low level in psychological distress.

As a whole, only14.2 per cent of the elderly are at a high level of psychological distress. Here observed that around 54 per cent of elderly belonging to the age group 60-69 suffer from a low level of psychological distress whereas this per cent is 73.9 for the elderly who are 80+. Consequently, the elderly with a high level of psychological distress varies from 16.2 in the age group 60-69 to 8.6 in 80+. That is the per cent of elderly with low psychological distress increases with age similarly elderly with high psychological distress decreases with age (Table 6). Among the elderly with low psychological distress, 61 per cent are women, in the case of medium distress 58.5 per cent are women, again those with high psychological distress 54 per cent are women elderly (Table 7).



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Psychological	A	Total(%)		
distress	60-69(%)	70-79(%)	80+(%)	
Low	724	452	309	1485
	(53.7)	(61.7)	(73.9)	(59.4)
Medium	407	181	73	661
	(30.2)	(24.7)	(17.5)	(26.4)
High	218	100	36	354
	(16.2)	(13.6)	(8.6)	(14.2)
Total	1349	733	418	2500
	(100.0)	(100.0)	(100.0)	(100.0)

Table 6 Distribution of the elderly by psychological distress and age

**p<.05

Table 7 Distribution of the elderly by psychological distress and sex

Psychological	Sex*	Sex**			
distress	Male(%)	Female(%)			
Low	578 (56.9)	907(43.1)	1485(59.4)		
	(38.9)	(61.1)	(100.0)		
Medium	274(27.0)	387(26.1)	661(26.4)		
	(41.5)	(58.5)	(100.0)		
High	164(16.1)	190(12.8)	354(14.2)		
	(46.3)	(53.7)	(100.0)		
Total	1016	1484	2500		
	(100.0)	(100.0)	(100.0)		

**p<.05

The low level of psychological distress is lesser (51.2%) among those elderly who are living with their spouse whereas this is higher among those living with their children only (67.2%). Slight variations are observed in the case of a high level of psychological distress with respect to the living

arrangements of living alone (15.3%), living with spouse (15.7%) and living with spouse and children(16.2%). Among the elderly with a low level of psychological distress, 32.5 per cent are living with spouse and children followed by those living with children (26.9%) and with spouse only (26.1%). Of the total elderly with medium psychological distress, 38.0 per cent are living with spouse followed by those living with spouse and children (27.1%). Among the elderly having high distress, 36.2 per cent are living with spouse and children followed by living with spouse (33.6%). It is visible that the living arrangement of the elderly is likely to be associated with psychological distress among the elderly(Table 8).

Living	Psy			
Arrangement**	Low(%)	Medium(%)	High(%)	Total(%)
Alone	118(7.9)	53(8.0)	31(8.8)	202(8.1)
	(58.4)	(26.2)	(15.3)	(100.0)
With Spouse	388(26.1)	251(38.0)	119(33.6)	758(30.3)
	(51.2)	(33.1)	(15.7)	(100.0)
With Children	400(26.9)	131(19.8)	64(18.1)	595(23.8)
only	(67.2)	(22.0)	(10.8)	(100.0)
With Spouse and	482(32.5)	179(27.1)	128(36.2)	789(31.6)
Children	(61.1)	(22.7)	(16.2)	(100.0)
With Others	97(6.5)	47(7.1)	12(3.4)	156(6.2)
	(62.2)	(30.1)	(7.7)	(100.0)
Total	1485(100.0)	661(100.0)	354(100.0)	2500(100.0)
	(59.4)	(26.4)	(14.2)	(100.0)

Table 8 Distribution of the elderly by psychological distressand Living arrangement

**p<.05

Cognitive impairment among elderly

The Mini-Mental State Exam (MMSE) is a widely used test of cognitive function among the elderly; it includes tests of orientation, attention, memory, Janasamkhya, Vol. XXXVI - VII, 2018 - 19

language and visual-spatial skills. It was originally introduced by Folstein et al. in 1975. Cognitive function was assessed by using Mini-Mental State Examination which is a standardized scale; maximum total score of this scale is 30. It covers the person's orientation to time and place, recall ability, shortterm memory, and arithmetic ability. It may be used as a screening test for cognitive loss or cognitive impairment. The MMSE was termed "mini" because it concentrates only on the cognitive aspects of mental function. The MMSE includes 11 items, covering Orientation to time and Orientation to place; Registration (repeating three objects); Attention or calculation (serial sevens or spelling backwards); Recall of the three objects; Naming two items shown; Repetition of a phrase; following a Verbal command and following a Written command; Writing a sentence; and Construction (copying a diagram). The questions can be scored immediately by summing the points assigned to each successfully completed task; the maximum score is 30. Any score of 24 or more (out of 30) indicates a normal cognition. Below this, scores can indicate severe (\leq 9 points), moderate (10–18 points) or mild (19–23 points) cognitive impairment. Fig. 5 displays the distribution of the study population by the scores obtained by the Mini-Mental State Examination.



Table 9 shows that 14.2 per cent of the study population have low scores (severe) and 41.0 per cent of the elderly have normal scores. In the age group 60-69, about 45.4 per cent have normal score and it decreased to 21.3 per cent to the 80+. Among the elderly of age group 60-69, around 9 per cent have

very low score i.e. severe cognitive impairment, 27.3 per cent have moderate level of cognitive impairment, 18.7 per cent have some mild impairment i.e., cognitive impairment in certain functions. But among the elderly of age 80+, 39.0 per cent of elderly are severely hit by cognitive impairment. Low scores correlate closely with the presence of dementia, although other mental disorders can also lead to abnormal findings on MMSE testing. The table clearly shows that the Mini-mental examination score of severe increases with age and it indicates a high risk of poor mental health among the oldold population. Around 45 per cent of the males are likely to have normal score which is higher than females (38.3 per cent). It indicates that males have better mental health. Females have a severe cognitive problem (15.6 per cent) than males (12.0 per cent).

Cognitive		$T_{otal}(9/)$			
impairment	60-69(%)	70-79	(%)	80+(%)	10tal(%)
Severe	120(8.9)	71(9.7)	163(39.0)	354(14.2)
Moderate	368(27.3)	184(2	5.1)	102(24.4)	654(26.2)
Mild	249(18.5)	155(2	1.1)	64(15.3)	468(18.7)
Normal	612(45.4)	323(4	4.1)	89(21.3)	1024(41.0)
Total	1349(100.0)	733(10	0.0)	418(100.0)	2500(100.0)
Cognitive		Sex*	·*		Total (%)
impairment	Male (%)	Fe	male(%)	
Severe	122(12	2.0)	232 (15.6)		354 (14.2)
Moderate	260(2	5.6)	394(26.5)		654(26.2)
Mild	178(17.5)		290(19.5)		468(18.7)
Normal	456(44.9)		568(38.3)		1024(41.0)
Total	1016(10	0.0)	1484(100.0)		2500(100.0)

Table 9 Cognitive impairment among the elderly by Age and Sex

**p<.05

The elderly having a higher score of normal is among those who are living with spouse and children (45.2 per cent) followed by those who are living with spouse (43.1 per cent). Around 23 per cent of the elderly who are living with children show a very low score (severe) followed by those who are living alone (17.3%). Table 10 clearly shows that those living with spouse or with spouse and children have better mental health than those of other categories of living arrangement. Further, cognitive impairment among the elderly is dependent on their living arrangement, (p<.05).

Living		Total			
Arrangement**	Severe (%)	Moderate (%)	Mild(%)	Normal (%)	(%)
Alone	35	48	40	79	202
	(17.3)	(23.8)	(19.8)	(39.1)	(100.0)
With spouse	79	218	134	327	758
	(10.4)	(28.8)	(17.7)	(43.1)	(100.0)
With children	136	146	101	212	595
only	(22.9)	(24.5)	(17.0)	(35.6)	(100.0)
With spouse	85	195	152	357	789
and children	(10.8)	(24.7)	(19.3)	(45.2)	(100.0)
Others	19	47	41	49	156
	(12.2)	(30.1)	(26.3)	(31.4)	(100.0)
Total	354	654	468	1024	2500
	(14.2)	(26.2)	(18.7)	(41.0)	(100.0)

Table 10 Distribution of elderly according to cognitive impairment and living arrangements

**p<.05

Subjective well-being of elderly (SUBI)

The concept of subjective well-being does not only refer to the absence of mental illness, but to a person's positive evaluation of their psychological

functioning and experience. The Subjective Well Being Inventory (SUBI) is designed to measure the feeling of well-being or ill-being as experienced by an individual, or a group of individuals in various day to day life concerns. It has been reported as a composite measure of independent feelings about a variety of life concerns, in addition to an overall feeling about life in positive and negative terms, i.e., general well being and ill-being. The Subjective Well Being Scale developed by Nagpal and Sell (1985) was used to measure well being of the elderly population. The nine life satisfaction items contained in the original pool of 130 SUBI items were selected. Like the original SUBI, all responses were made on scales with 3 verbal response categories that indicated the extent to which the item was endorsed by the respondent (e.g., "Very much" (3) "To some extent" (2) "Not so much" (1)). Responses to the nine global life satisfaction items were scored such that higher scores (3) indicated greater overall life satisfaction. The elderly population is classified to low, medium and high categories based on the mean score obtained from the SUBI scale.Fig.6 shows the distribution of subjective well-being of the study population. The prevalence of low level of well-being is the uppermost among the elderly(65.2) followed by high well-being (21.1 per cent) and medium level of well-being (13.7 per cent).

Fig. 6: Elderly according to SUBI



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Table 11 presents the level of subjective well-being of elderly according to age and sex. Age seems to be one of the significant predictors in determining well-being among the elderly is evident from the table that the percentage of elderly in the low level of well-being is 66.3 per cent in the 60-69 age group, 64.3 per cent in 70-79, and 63.4 per cent in 80+. The proportion of elderly with high level of well-being is formed by around 20 per cent among those of age groups 60-69 and 70-79. Variation in the level of well-being across age groups is very less. It is interesting to note that low level of well-being is decreasing in a small extent with the increasing age. Among elderly males, 62.4 per cent have SUBI at a low level and 22.7 per cent at a high level. Low well-being is more prevalent among female (67.2 per cent) compared to males(62.4 per cent). But medium and high level of well-being is more among males than females.

SUBI	Age Grou		Group		Total(%)
	60-69(%)	70-79	9(%)	80+(%)	
Low	895(66.3)	471	(64.3)	265(63.4)	1631(65.2)
Medium	176(13.0)	114	(15.6)	52(12.4)	342(13.7)
High	278(20.6)	148	(20.2)	101(24.2)	527(21.1)
Total	1349(100.0)	733(100.0)		418(100.0)	2500(100.0)
SUBI		Total(%)			
	Male(%)		F	emale(%)	
Low	634(6	52.4)		997(67.2)	1631(65.2)
Medium	151(14.9)		191(12.9)		342(13.7)
High	231(2	22.7)	296(19.9)		527(21.1)
Total	1016(10	00.0)	1484(100.0)		2500(100.0)

Table 11 Distribution of elderly according to SUBI by age and sex

**p<.05

Substantial difference can be observed in the distribution of elderly according to the living arrangement and SUBI and also, it is found that the living arrangement is an associated factor for SUBI (p<.05). A higher percentage of elderly of low well-being is seen among those who live alone (80.7) and living with children(70.7%). The proportion of elderly with high scores of well-being is seen among those who are living with spouse (32.1 per cent) which is higher compared to the other categories of living arrangement (Table 12). Reversibly, low level of well-being is more prevalent among those who live alone.

Living		Total (%)		
Arrangement**	Low (%)	Medium (%)	High (%)	
Alone	163(80.7)	22(10.9)	17(8.4)	202(100.0)
With Spouse	405(53.3)	111(14.6)	244(32.1)	760(100.0)
With Children only	418(70.7)	85(14.4)	88(14.9)	591(100.0)
With Spouse and				
children	535(67.8)	109(13.8)	145(18.4)	789(100.0)
With Others	110(69.9)	15(9.5)	33(20.9)	158(100.0)
Total	1631(65.2)	342(13.7)	527(21.1)	2500(100.0)

Table 12 Distribution of elderly according to SUBI by living arrangements

**p<.05

Conclusions

This paper investigates the empirical measurement of well-being in later life, by examining commonly used scales, and the implication of living arrangements of elderly on the well-being. Importantly, these scale items bring out the inference of various types of living arrangement on the mental health of the elderly. Screening tools of well-being conveys the assessment of mental health (Demakakos et al.2010).Measuring mental health has often been viewed as more difficult than measuring other types of health. Beyond

individual characteristics of the elderly, their living arrangements can have a vigorous effect on mental health (Sereny,2011; Greenfield, 2011). The primary finding of the present study is that there is significant association between type of living arrangement and psychological well-being among older adults.

The phenomenon of experiencing loneliness is more pronounced during old age. The elderly feel lonely because they experience the loss of their loved ones or partner resulting in social exclusion. The family can give the appropriate motivations to the elderly to remain independent and active in everyday life (Wright,2000). The proportion of women living alone increased substantially with increasing age. The study found that although living alone may increase the risk for loneliness, not all elderly people who live alone feel lonely and vice versa. Some researchers claimed that living with a spouse may provide sensitive closeness, economic benefits, social control of behaviour, and more opportunities for social acceptance, all of which are likely to influence well-being.

The present study demonstrates that older adults living with their children are at a greater risk of psychological distress. The older adults living in coresidence with children may be at particular risk for depression and poor quality of life (Taylor et al. 2010). The elderly may be more likely to report poorer mental health and psychological well-being who are being neglected from the actual desired and expected care and support from their children. The elderly living alone may have better health status which is consistently associated with better quality of life and less risk of psychological distress.

It has been shown that cognitive decline is linked with physical dependency and poor quality of life (Luppa, 2010). Cognitive health stimulation, that is, to sustain"brain health" with ageing has become extremely important for the successful ageing. The work out factors to reduce cognitive impairment among elderly need to be addressed in caring for

elderly particularly long term care. From a cognitive reserve viewpoint, starting an early diagnosis enables elderly and their family members to prepare for the future in an appropriate way.

The pattern of living arrangement points that weak subjective well being is highly associated with the cases of elderly who are living alone. Social and kin relations is an important contributing factor for enhancing the overall well-being of elderly. Social interaction should be provided within the home environment for meaningful engagement and emotional support. The elderly may have mutually advantageous companionship with those they live with, including behaviors such as eating meals together, enjoying leisure activities, and exchanging information, all of which are important for quality of life (Barker, 2002).In order to enhance the subjective well-being of elderly, multimodal intervention strategies like cognitive revamp, relaxation training, nutrition, exercise etc. can be used to enhance self-efficacy among elderly. Living arrangement is supposed to have the responsibility of caring for the elderly which is very fundamental for planning, designing and evaluation of policies supporting to the elderly.

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