



Physical and mental health among older parents: Does offspring migration and living arrangement matter? Findings from Longitudinal Aging Survey in India (2017-18)

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ABSTRACT

The migration of adult children can have beneficial and adverse effects on the health outcomes of elderly parents left behind. This study examines the effects of adult children's migration on self-rated health and depression among older parents using Longitudinal Ageing Study in India (LASI) 2017-18 with 19,401 individuals aged 60 years or older. Binary logistic regression models were performed to determine the association of self-rated health and depression with adult-child migration status while adjusting for living arrangements and socioeconomic factors. Results show that 36 percent of older parents have at least one migrant child, and 35 percent are empty nesters. Older adults living with their children experience positive impacts on their physical and mental health. Our study reveals that empty-nested elderly have a higher prevalence of poor self-rated health and depression. Irrespective of migrant children, the availability of children in the household matters most regarding parents' health care, as our study suggests no significant difference in physical and mental health among left-behind and non-left-behind older parents. This study aims to draw policymakers' attention to the impact of adult children or youth migration on older parents' physical and mental health. To address this issue, policies should prioritize raising awareness among migrant children of older adults about the importance of maintaining frequent contact and visiting their aging parents.

1. Introduction

Traditionally, older parents are taken care of by their spouse and adult children in India (Devi Prasad & Indira Rani, 2007). However, recent studies show a declining trend in familial support for older adults in India due to the tendency to increase nuclear families and separation from children (Krishnaswamy et al., 2008; Rajan & Kumar, 2003). Unemployment, poverty at the place of origin, and better employment opportunities at the place of destination triggered millions of youth to migrate out by leaving their family behind, resulting from the increase in left behind elderly parents in India (Deshingkar & Akter, 2009; Samanta et al., 2015). According to (Jadhav et al., 2013) parents living alone or with their spouse, without children increased from 22 % in 2011 to 27 % in 2017-18 (LASI). The changing traditional family structure due to the

out-migration of children is challenging for the elderly regarding accessibility to health and caregiving as older adults suffer from multi-morbidity conditions (Centre for Policy on Ageing, 2014; Evandrou et al., 2017).

Evidence from prior literature demonstrates that the migration of adult children has both positive and adverse effects on the health of those left behind by family members (Antman, 2013; Wickramage et al., 2015). Receiving remittances facilitates the food consumption, security (Abadi et al., 2018; Mora-Rivera & van Gameren, 2021) and health (Lu, 2013) and nutrition (Thow et al., 2016) of migrants and their left-behind families (Gulati, 1993; Kuhn et al., 2011; Roy & Nangia, 2002; Yanovich, 2015) especially left-behind elderly. In South Africa, temporary internal migrants could improve the health of their family members, including elderly parents who remained behind, by raising their household income

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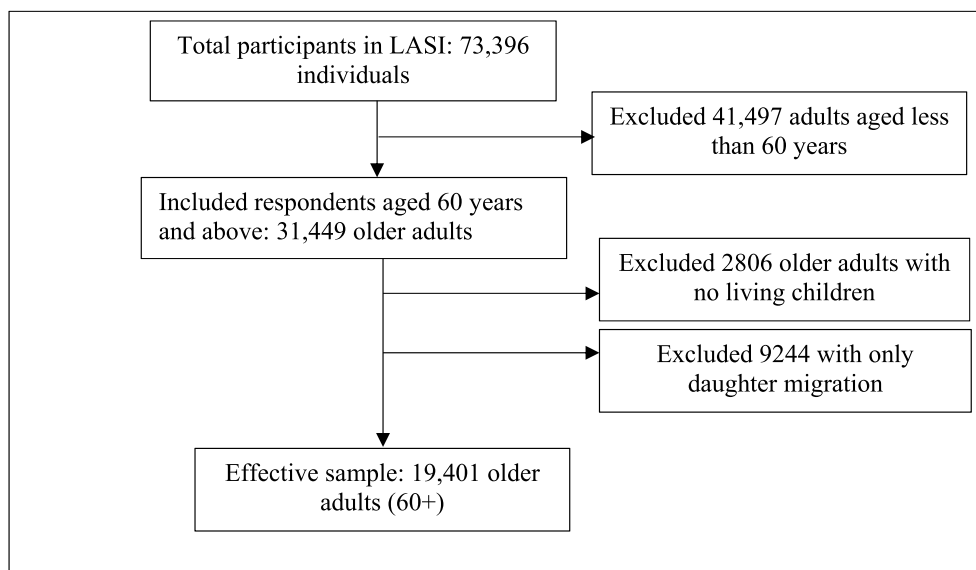


Fig. 1. Sample selection for the present study.

(Kahn et al., 2003). A study in Moldova (Böhme et al., 2015) finds the beneficial impact of the migration of adult children on the physical health of elderly family members who stay behind and finds no significant impact on their mental health or cognitive capacity. In contrast, both in China and Mexico, the migration of adult children has been found to result in lower self-reported health status among elderly parents (Antman, 2010; Ao et al., 2016). Similarly, Older parents may experience detrimental effects like social isolation, loneliness, reduced access to essential support, cognitive decline, and overall mental health decline due to their adult children's out-migration, as stated in previous research (Carr, 2019). A study in India shows a higher risk of lifestyle-related chronic disease among the left behind parents due to increased loneliness, isolation, and the stress caused by children's out-migration (Falkingham et al., 2017). In contrast, some studies also show that financial assistance from migrant children is positively associated with lower depression among left-behind parents. Similarly, multi-country analysis shows that older parents who have migrated children were more engaged in social activities which improved mental health and wellbeing among older parents.

The elderly population in India (Bloom et al., 2021) is growing rapidly, with over 140 million people over age 60. The increase in life expectancy also brings several health risks and chronic diseases such as diabetes, heart disease, cancer, arthritis, etc. According to the Longitudinal Ageing Study in India (LASI), approximately 75 million people aged 60 years or above suffer from chronic diseases (LASI, 2021). Earlier studies suggest that the health status of the elderly is determined by their current socio-economic and demographic characteristics, such as living arrangements, marital status, working status, etc. (Chen, 2022), as well as early life events (Arpino et al., 2018; Muhammad et al., 2022) and the migration status of their children. For instance, (Paul et al., 2023), found that early life migration experience leads to poor health status among older return migrants. Following early life condition, the left behind elderly growing rapidly due to separation of family for child out migration. This study intends to investigate the effects of adult children's migration on the perception of physical health (self-rated health) and depression among elderly parents in India. This study's findings will help fill a vacuum in the literature and give the knowledge necessary for advocacy and formulating relevant solutions for successful aging among older parents.

2. Data and methodology

2.1. Data

The data for this study were obtained from the large-scale survey "Longitudinal Ageing Study in India (LASI)" in 2017–2018 to investigate the health, economic, and social factors and effects of population aging in India. The LASI is a nationally representative survey of 73396 individuals aged 45 and above from all Indian states and union territories. To arrive at the final units of observation (respondents), LASI used multistage stratified area probability cluster sampling, particularly three-stage sample methodology, whereas, in urban areas, it used a four-stage sampling approach. In the survey report, the entire methodology was provided (LASI, 2021), together with complete information on the survey design and data collection. The first stage involves the selection of PSU (sub-district or Tehsils/Talukas) and the second stage involves choosing villages and wards from rural and urban areas respectively. In the third step, Census Enumeration Block (CEB) was chosen and finally, Households from this CEB were chosen in the fourth stage. The current study focuses on those aged 60 and over who are eligible to participate. After excluding those older adults with no children (2806), and daughters not co-residing in the household (9224). The total sample size for the present study was 19401 older adults aged 60 years and above (non-left behind elderly-5553; empty nest-6643; left behind elderly-7205) (Fig. 1).

3. Measures

3.1. Outcome variable

3.1.1. Self-rated health

The main outcome variable for this study is self-rated health. Respondents in the survey were asked the rate your current status of health. The questions had five response categories (Very good, good, fair, poor, and very poor). The authors categorized the response into two groups "good" and "poor". Whereas "very good", "good" and "fair" are included as "good" which is coded as 0, and, "poor" and "very poor" are included as "poor" coded as 1.

3.1.2. Depression

The other outcome variable for this study is major probable depression coded as 0 for "not diagnosed with depression" and 1 for

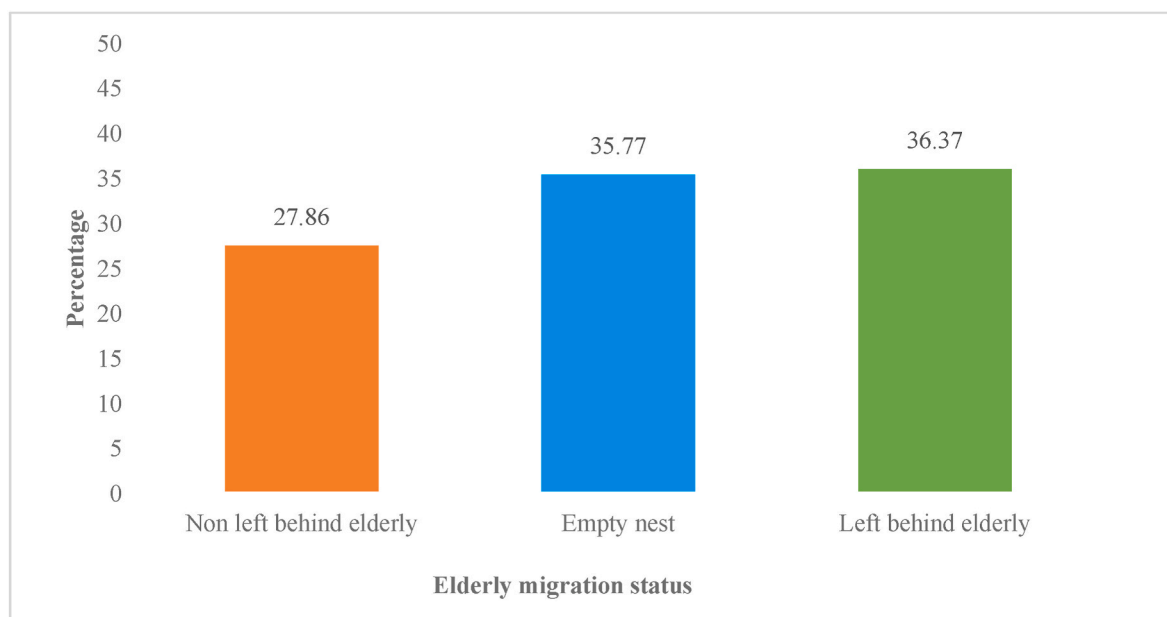


Fig. 2. Migration and living agreement status of elderly.

“diagnosed with depression”. Major depression among elderly was calculated using 10 questions of a Short-Form Composite International Diagnostic Interview (CIDI-SF) asked survey. A composite value of more than three defines as “diagnosed with depression”. The scale was validated in field settings, especially by non-clinicians in general population surveys, and widely used in population-based health surveys. Cronbach’s alpha indicated that CIDI-SF has excellent reliability ($\alpha = 0.79$). The questions which were used to assess depression are as follow: (i) During the last 12 months, was there ever a time when you felt sad, blue or depressed for 2 weeks or more in a row? (ii) Please think of the 2-week period during the last 12 months when these feelings were worst. During that time did the feelings of being sad, blue or depressed usually last all day long, most of the day, about half the day or less than half the day? (iii) During those 2 weeks, did you feel this way every day, almost every day or less often than that? (iv) Did you lose interest in most things? (v) Did you ever feel more tired out or low in energy than is usual for you? (vi) Did you lose your appetite? (vii) During the same 2-week period did you have a lot more trouble concentrating than usual? (viii) People sometimes feel down on themselves, and no good or worthless. During that 2-week period, did you feel this way? (ix) Did you think a lot about death—either your own, someone else’s or death in general—during those 2 weeks? (x) Did you have more trouble falling asleep than you usually do during those 2 weeks?

3.2. Explanatory variable

3.2.1. Child migration and elderly status

The migration status of the elderly and their living arrangements are the main explanatory variables for this study. The LASI survey collects information about “children residing in the household or not?” and the current place of residence of each child of the respondents with seven responses (within village/city, inside/within the state, outside the state, and outside the country). Based on these two questions the author has calculated the migration status of the elderly as “Non-left behind elderly”, “Empty nest,” and “Left behind elderly”.

Non-left behind elderly: Respondents whose children co-resided with them and none migrated or lived outside the household.

Empty Nest: Respondents all children are away from home and living outside the district/state/country (Liang & Wu, 2014).

Left behind elderly: At least one child of respondents does not reside in

a household or outside the district/state/country (Thapa et al., 2018).

Living Arrangements: The survey also collects information about the living arrangements of respondents with five responses (alone, with a spouse, with spouse and others, with children and spouse, others). The authors have categorized into four groups, e.g., alone coded as 1, resided with children coded as 2, with spouse and others coded as 3, and others coded as 4.

3.2.2. Socio-economic variables

The control variables included demographic information age, gender, MPCE quintile, place of residence, education, marital status, working status, and number of living children. Age was categorized into three groups 60–79, 70–79, and 80 or above. The sex of the respondent was coded as male or female. Educational status was coded as no education/primary, secondary, and higher. Working status was coded as never worked, currently not working, and currently working. Marital status was coded as currently in union or currently not in union. Living arrangements were recoded into four groups: living alone, with a spouse, with children, and others.

3.2.3. Statistical analysis

This study uses descriptive and bivariate analyses to assess the prevalence of self-rated health and depression with explanatory variables. A Chi-square test has also been conducted to evaluate the significance level of the outcome variable, i.e., self-rated health and depression, in association with different explanatory variables. Further, unadjusted (UOR) and adjusted (AOR) multivariate binary logistic regression analysis was performed to measure the impact of the migration status of the elderly and living arrangements on health and depression. Model, I examine the impact of elderly migration status on poor self-rated health and depression. Model II examines the impact of migration and living arrangements on poor self-rated health, and depression. Further, Model, III examines the migration status of the elderly and living arrangements after adjusting different socio-economic variables. The results are presented in odds ratio (OR) with a 95% confidence interval (CI). Individual weights were applied to make the estimates nationally representative. For all the analysis, STATA version 17 has been used.

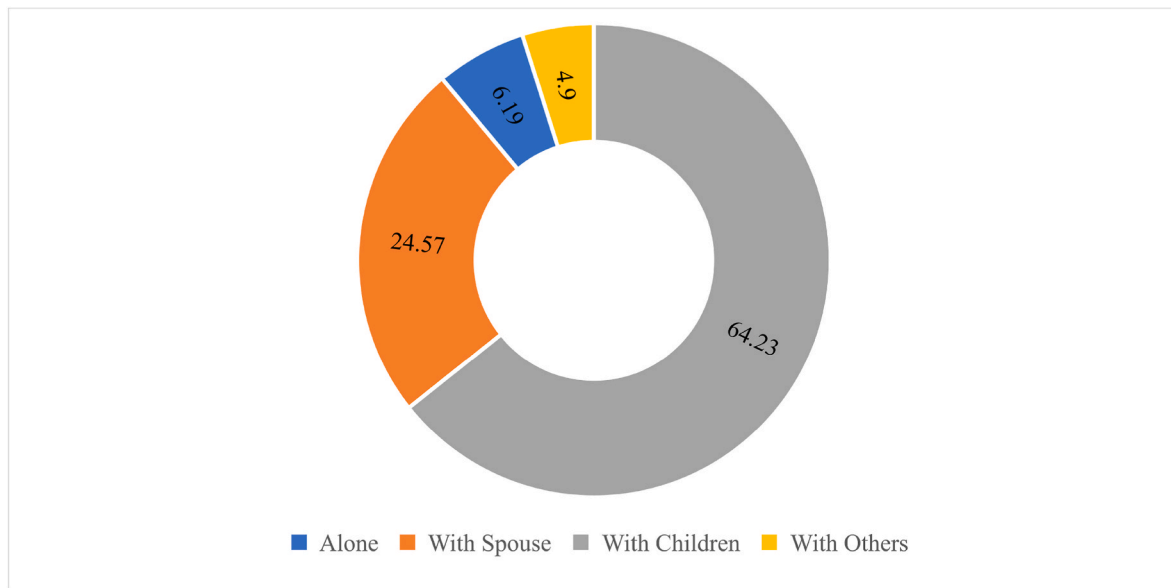


Fig. 3. Living arrangements of elderly.

Table 1
Background characteristics of sample population.

	Non-Left behind elderly		Empty nest		Left behind elderly		Total	
	No.	%	No.	%	No.	%	No.	%
Place of residence								
Rural	3,856	72.8	4,894	79.9	5,068	74.9	13,818	76.1
Urban	1,697	27.2	1,749	20.1	2,137	25.1	5,583	23.9
Religion								
Hindu	3,893	78.7	5,151	84.8	5,082	80.5	14,126	81.6
Muslim	908	14.6	556	8.7	1,002	13.3	2,466	12
Christian	413	2.5	666	3.4	763	2.4	1,842	2.8
Others	339	4.2	270	3	358	3.8	967	3.7
Social category								
Scheduled Tribe (ST)	939	9.5	1,029	9.7	1,257	7.3	3,225	8.8
Scheduled Caste (SC)	1,006	22	1,187	21	1,275	21.5	3,468	21.5
Other backward class (OBC)	2,079	42.8	2,747	47	2,583	44.3	7,409	44.9
None of above	1,406	25.6	1,636	22.3	1,941	26.8	4,983	24.9
MPCE quintile								
Poorest	1,322	24.1	1,033	17.2	1,611	25	3,966	22
Poorer	1,298	24.4	1,102	16.5	1,640	24.8	4,040	21.7
Middle	1,136	19.7	1,323	21.8	1,532	20.7	3,991	20.8
Richer	1,036	19.8	1,462	22.1	1,387	17.1	3,885	19.7
Richest	761	11.9	1,723	22.5	1,035	12.3	3,519	15.8
Age Group								
60–69	3,171	55.3	3,803	56.1	3,998	55.7	10,972	55.7
70–79	1,747	32.8	2,137	34.2	2,253	30.7	6,137	32.5
80+	635	11.9	703	9.7	954	13.6	2,292	11.8
Gender								
Male	2,449	43.4	3,171	46.6	3,106	43.2	8,726	44.4
Female	3,104	56.6	3,472	53.4	4,099	56.8	10,675	55.6
Education Status								
Illiterate	3,364	61.6	3,845	62.4	4,333	63.1	11,542	62.4
Primary	1,386	22.2	1,505	22.3	1,695	21.9	4,586	22.1
Secondary	618	13	854	9.8	837	10.5	2,309	11
Higher secondary/above	185	3.1	438	5.5	340	4.5	963	4.5
Working Status								
Never work	1,769	31.1	1,611	22.3	2,092	27.6	5,472	26.7
Currently working	1,387	25	2,205	36	1,978	27.4	5,570	29.8
Currently not working	2,397	43.8	2,827	41.7	3,135	45.1	8,359	43.5
Marital Status								
Currently in union	3,258	55.4	4,749	69.7	4,167	56.8	12,174	61
Currently in not union	2,295	44.6	1,894	30.3	3,038	43.2	7,227	39
Number of children alive								
One	0	0	393	5.9	202	3	595	3.2
Two	476	9.8	1,212	17.1	800	10.8	2,488	12.8
Three or above	5,077	90.2	5,038	77	6,203	86.2	16,318	84
Total	5,553	100	6,643	100	7,205	100	19,401	100

Table 2
Health status of elderly by migration status and living arrangement.

Migration status	Self-Rated health		Depression	
	Good	Poor	No	Yes
Non-left behind	75.51	24.49	70.99	29.01
Empty nest	69.11	30.89	64.36	35.64
Left behind elderly	75.52	27.48	69.41	30.59
Total	74.3	27.62	68.25	31.75

4. Results

4.1. Migration status of children and living arrangements of the elderly

The migration status of the elderly (Fig. 2) shows that around 36 percent of the elderly were non-left behind, and 27 percent and 35 percent elderly were left behind respectively. Results also show that 6 percent of the elderly live alone while around 25 percent and 64 percent of them live with a spouse and children respectively (Fig. 3)y.

4.2. Background characteristics

The socio-economic and demographic profile of the elderly is shown in Table 1. It was found that three-fourths of the elderly population

Table 3
Binary Logistic regression estimates for poor Self-rated health among older adults.

Poor Self Rated Health	Model I		Model II		Model II	
	OR	CI (95%)	OR	CI (95%)	OR	CI (95%)
Migration status of elderly						
Non-Left behind elderly®						
Empty Nest	1.19*	[1.03–1.38]	1.25*	[1.05–1.50]	1.30**	[1.09–1.55]
Left behind elderly	1.02	[0.87–1.15]	1.04	[0.87–1.15]	1.09	[0.87–1.15]
Living arrangement						
With children®						
Alone			1.67***	[1.36–2.06]	1.62***	[1.29–2.04]
With spouse			1.01	[0.88–1.15]	1.14	[0.98–1.31]
Others			1.69***	[1.32–2.16]	1.54**	[1.18–2.02]
Place of residence						
Urban®						
Rural					1.14	[0.99–1.32]
MPCE quintile						
Poorest®						
Poorer					0.97	[0.83–1.13]
Middle					0.91	[0.78–1.07]
Richer					1.03	[0.87–1.23]
Richest					1.01	[0.84–1.22]
Age						
60-69®					1	[1.00–1.00]
70–79					1.28***	[1.13–1.46]
80+					1.74***	[1.47–2.07]
Gender						
Male®					1	[1.00–1.00]
Female					1.04	[0.91–1.20]
Illiterate					1	[1.00–1.00]
Educational status						
Primary®					0.98	[0.85–1.13]
Secondary					0.71**	[0.57–0.89]
Higher secondary/above					0.48***	[0.36–0.64]
Marital status						
Currently in union®					1	[1.00–1.00]
Currently in not union					1.07	[0.94–1.21]
Working status						
Never work®					1	[1.00–1.00]
Currently working					0.57***	[0.48–0.68]
Currently not working					1.19*	[1.03–1.37]
Children alive						
One®					1	[1.00–1.00]
Two					0.86	[0.62–1.17]
Three or above					0.9	[0.69–1.18]

Exponentiated coefficients; 95% confidence intervals in brackets.

* p<0.05, ** p<0.01, *** p<0.001.

living in rural areas and around four-fifth of them were belonging to the Hindu religion. About 44 percent of the study population other backward classes, while its higher among empty nest elderly. Most of the older adults belong to below poor MPCE quintile, and half of the left behind elderly come under this category. Around 55 percent of the elderly aged between 60 and 69 years were among all the categories, meanwhile, only 11 percent were aged 80 plus or more, and the majority of the study population was female. The majority of them were illiterate, and only 15 percent have up to secondary or more. Around, 55 percent, 69 percent, and 56 percent of the non-left behind, empty nest, and left behind elderly were currently living in a union respectively. Further results show that the elderly living without children has higher work participation than others. Around 84 percent of them have three or more children (see Table 2).

4.3. Impact of child migration and living arrangement on self-rated health and depression among elderly

The result of multivariate logistic regression shows that child migration status and living arrangements of elderly significantly determine the physical and mental health of elderly parents. Results (Table 3) show that the elderly living in the empty nest has a 19 percent higher likelihood to reporting poor self-rated health than non-left-behind elderly and thus likelihood increases after adjusted living

Table 4
Binary Logistic regression estimates for depression among older adults.

Depression	Model I		Model II		Model III	
	OR	CI (95%)	OR	CI (95%)	OR	CI (95%)
Migration status of elderly						
Non-Left behind elderly®						
Empty nest	1.24**	[1.08–1.43]	1.26**	[1.05–1.50]	1.40**	[1.09–1.64]
Left behind elderly	1.08	[0.93–1.25]	1.08	[0.93–1.25]	1.07	[0.93–1.22]
Living arrangement						
With children®						
Alone			1.96***	[1.60–2.40]	1.72***	[1.39–2.13]
With spouse			0.96	[0.85–1.09]	1.08	[0.94–1.24]
Others			1.71***	[1.33–2.19]	1.53**	[1.17–2.01]
Residence						
Urban®						
Rural					1.06	[0.92–1.23]
MPCE quintile						
Poorest®						
Poorer					0.83*	[0.71–0.96]
Middle					0.80**	[0.68–0.95]
Richer					0.81*	[0.69–0.96]
Richest					0.97	[0.81–1.16]
Age						
60–69®						
70–79					1.03	[0.92–1.17]
80+					1.09	[0.91–1.30]
Gender						
Male®						
Female					1.05	[0.92–1.19]
Education						
Illiterate®						
Primary					0.78***	[0.68–0.90]
Secondary					0.63***	[0.51–0.79]
Higher secondary/a–e					0.50***	[0.38–0.64]
Marital status						
Currently in union®						
Currently in not union					1.30***	[1.15–1.46]
Working status						
Never work®						
Currently working					0.99	[0.84–1.16]
Currently not working					1.28***	[1.11–1.49]
Children alive						
One®						
Two					0.67	[0.50–0.89]
Three or above					0.85	[0.66–1.09]

Exponentiated coefficients; 95% confidence intervals in brackets.

* p<0.05, ** p<0.01, *** p<0.001.

arrangements (AOR:1.25; CI:1.05–1.50), and several socio-economic characteristics (AOR: 1.30; CI:1.09–1.55). Results, also found that there is no significant difference between left-behind elderly, in reference to non-left-behind elderly. Further, the likelihood of poor self-rated health was higher among the elderly living alone (AOR:1.62; CI:1.29–2.04) or living with others (AOR: 1.54; CI: 1.18–2.02) than those elderly living with children.

Following a similar pattern, Table 4 shows that likelihood of depression among empty nest elderly is 24 percent higher than non-left behind elderly and it further increases with adjusting living arrangements (AOR:1.26; CI:1.05–1.50) and other socio-economic characteristics (AOR:1.40; CI: 1.09–1.64). Further Age, education, working status, and marital status, were the significant factors associated with both self-rated health and depression among older adults in India.

4.4. Determinants of self-rated health and depression among empty Nest elderly

In India, with increasing wealth (MPCE quintile), the probability of poor self-rated health (richest; OR: 0.67, CI- 0.71-1.32) and any major depression (richest, OR: 0.72; CI-0.63-1.28) reducing (Table 5). Further, education significantly contributes to reducing poor self-rated health and depression. Thus, empty nest elderly with higher education reported less poor-self rated health (OR: 0.39; CI: 0.24–0.64) and depression (OR:

0.62; 0.42–0.92) than illiterate elderly. Elderly living in empty nests who gas currently not in the union have a higher likelihood of reporting poor-self rated health (OR:1.47; CI: 1.19–1.80) and depression (OR: 1.70; CI:1.40–2.07) than those currently in a union. Further, currently working elderly have less likelihood of poor self-rated health, while currently not working people have higher depression than elderly who never work.

5. Discussion

This study intended to investigate the impact of adult child’s migration and living arrangements on the physical and mental health of older parents, in In India, where the elderly population growing rapidly due to lowering fertility and increasing life expectancy. The general trend in India is that children are taken care of by parents at a later age, however, poverty, unemployment, or better employment opportunities (Bhagat, 2010; Bhagat & Mohanty, 2009; Rajan & Bhagat, 2021; Roy & Bhagat, 2021) forced children to migrate by leaving their parent behind (Deshingkar & Akter, 2009). The current study shows that around 35 percent of older people are demarcated as empty nest, which means all the children moving away from households. On the other hand, 36 percent of older people become left behind, i.e., at least one child living outside the district/state or country.

Empirical literature shows that the migration of adult children has

Table 5
Logistic regression showing Self Rated Health and depression among empty nest elderly.

Background Characteristics	Poor SRH		Depression	
	OR	CI (95%)	OR	CI (95%)
Place of residence				
Rural®				
Urban	0.84	[0.64–1.10]	0.92	[0.72–1.17]
MPCE quintile				
Poorest®				
Poorer	0.94	[0.72–1.23]	0.89	[0.68–1.15]
Middle	0.72	[0.54–0.96]	0.74	[0.56–0.98]
Richer	0.85*	[0.64–1.11]	0.76*	[0.58–1.00]
Richest	0.67**	[0.71–1.32]	0.72**	[0.63–1.28]
Age group				
60–69®				
70–79	1.25*	[1.01–1.54]	1.05	[0.86–1.28]
80+	1.60***	[1.23–2.10]	1.05	[0.80–1.37]
Gender				
Male®				
Female	0.86	[0.69–1.08]	1.15	[0.94–1.41]
Educational status				
Illiterate®				
Primary	0.94	[0.74–1.19]	0.84	[0.67–1.06]
Secondary	0.84	[0.60–1.16]	0.75	[0.53–1.05]
Higher secondary/above	0.39***	[0.24–0.64]	0.62*	[0.42–0.92]
Marital status				
Currently in union®				
Currently in not union	1.47***	[1.19–1.80]	1.70***	[1.40–2.07]
Working status				
Never work®				
Currently working	0.57***	[0.43–0.77]	0.97	[0.75–1.27]
Currently not working	1.12	[0.87–1.44]	1.28*	[1.01–1.63]
Number of children alive				
One®				
Two	1.09	[0.73–1.63]	0.65*	[0.45–0.96]
Three or above	1.05	[0.76–1.46]	0.8	[0.59–1.10]

SRH= Self Rated Health.

Exponentiated coefficients; 95% confidence intervals in brackets.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

both positive and adverse effects on older parents' health status (Abas et al., 2009; Adhikari et al., 2011). However, the findings of the present study found that the absence of children due to out-migration triggers and determines the poor physical and mental health of older parents (D. Su et al., 2012a; H. Su et al., 2021a; Thapa et al., 2018; Wang et al., 2017a). Previous research also found that depression and life satisfaction of older parents significantly determine by the migration status of offspring (Thapa et al., 2018). Following a similar direction, our study also found that empty nest elderly has a higher prevalence of poor self-rated health and depression than elderly residing with children. A study (Antman, 2012) in Mexico shows that out-migrating children are able to provide financial support but are unable to offer physical and emotional care. Child migration reduces opportunities for face-to-face communication between parents and children, which increases isolation and challenge (Hadi, 1999; Y. Liu et al., 2021), which is reflected clearly in this study (Miltiades, 2002; Schoeni et al., 2015; Vullnetari & King, 2008). Older parents in Indian society, socially and economically, depend on their children; thus, the absence of their children due to migration or family separation makes empty nested elderly more vulnerable in terms of economy and physical and mental health. Contrasting with other studies (L. J. Liu & Guo, 2007), our study does not find any significant difference in poor-self rated health and depression between elderly who has a migrated son but living with other children and non-left behind. The possible reason is that older parents become more vulnerable only when all children are moving out from house.

Along with migration and living arrangements several socio-demographic factors i.e., age, marital status, working status, and MPCE quintile were significant predictors of self-rated health and depression among an elderly population with all migrated children.

Consisting with other studies (Blanchflower, 2021; Hansen & Slagsvold, 2012; Neri et al., 2016), our study also found that age become a significant determinant of poor self-rated health and depression among empty nest and it shows that with increasing age, poor self-rated health and depression will increases (D. Su et al., 2012b; Wang et al., 2017b). As documented in earlier studies, an elder person who lives alone or with others has a higher prevalence of poor-self rated health and depression due to less support and care by a spouse or children. Considering that family serves as the primary provider of care and support for elderly individuals in India, as well as numerous other Asian nations, implementing social and emotional support structures in the absence of children could have a beneficial effect on the mental well-being of older parents left behind, potentially lowering their susceptibility to major depression (H. Su et al., 2021b). Consisting with other studies our studies also found that higher household economic status lowering depression and poor health status in later life while educational status and working status increase the propensity to poor self-rated health and depression significantly reducing.

When analysing the results of this study, some limitations have been considered. First, due to the cross-sectional design of the study, each element that was examined was quantified at a single point in time.

6. Conclusion

This study captures the connection between adult-child migration, living arrangements, and older parents' physical and mental health. The research demonstrates that adult children's out-migration is strongly connected with poor self-rated health and depression of older parents. Our results highlight that the availability of children in households benefited left behind and non-left-behind elderly have better physical and mental health than the empty-nested elderly. This study aims to draw policy makers' attention to the impact of adult children or youth migration on the physical and mental health of elderly older parents. To address this issue, policies should prioritize raising awareness among migrant children of older adults about the importance of maintaining frequent contact, visiting their aging parents and family ties. Additionally, encouraging older adults to participate in socio-political and cultural activities can mitigate the negative impact of their children's migration on their physical and mental health.

Further scope and recommendation

Child out-migration significantly impacts the well-being of elderly parents in terms of their physical absence and the potential financial support through remittances. This opens up opportunities for further study of the effects of remittances on elderly health and their access to healthcare services or does remittance really compensate te absence of children.

Author credit statement

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Statements and declarations

The authors report there are no competing interests to declare.

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Data availability

Data will be made available on request.

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