Extended abstract

Gendered Dimensions of Ageing Alone: Examining Health and Quality of Life Among Older Adults in India

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Introduction

India is currently undergoing a significant demographic transition, characterized by an ageing population, rapid urbanization, and the increasing migration of younger family members to urban areas or abroad. As a result, living alone among older adults is becoming more prevalent, with approximately 5.7% of senior citizens (aged 60 and above) living independently, without family or friends. Older adults are particularly vulnerable to loneliness and social isolation due to factors such as living alone, the loss of family or friends, chronic health conditions, and hearing impairment.

Loneliness, coupled with low social capital, is increasingly recognized as a critical factor influencing the well-being of older adults. As individuals age, changes in living arrangements, social networks, and physical abilities can heighten the risk of social isolation and loneliness 14/09/24 1:25:00 AM. Loneliness, often defined as the subjective feeling of disconnection from others, is associated with various negative health outcomes, including depression, cognitive decline, and increased mortality risk. Conversely, social capital—the resources available through an individual's social networks and community engagement—can mitigate these risks. High levels of social capital are linked to better physical and mental health, increased social support, and greater participation in community activities. However, the shift in family dynamics and modernization in societies like India has led to diminishing social ties, making it crucial to examine how loneliness and social capital influence the quality of life and health outcomes of older adults. We argue that the combination of low social capital and feelings of loneliness among older adults can be effectively conceptualized as **"ageing alone."** While living alone typically refers to physical isolation, it does not fully capture the emotional and social disconnection many older adults experience, even when surrounded by others. Low social capital—reflected in limited access to social networks and community engagement—coupled with the subjective experience of loneliness, creates a unique and pressing form of isolation. This condition of ageing alone has significant implications for physical, mental, and social well-being, as it involves both social isolation and the absence of meaningful support systems, making it a critical area for research and intervention.

A crucial aspect of ageing alone is the gendered experience of loneliness and social isolation. In many cultures, including India, older women, especially widows, tend to be more vulnerable to social isolation and economic insecurity than men. Gender roles and expectations often place women in caregiving roles during their younger years, but in old age, they may lack similar support themselves, particularly if they are widowed or without children. Older women are more likely to face poverty, limited social mobility, and emotional neglect, leading to higher rates of loneliness and lower levels of social capital compared to men. Additionally, women may have fewer opportunities to participate in social networks and community activities, exacerbating their experience of ageing alone. Therefore, this study aims to explore how loneliness and social isolation affect the health and well-being of older adults in India, with a specific focus on how gender differences shape these experiences. Specifically, it seeks to examine the impact of living and ageing alone on physical and mental health outcomes, considering the unique challenges faced by older women compared to their male counterparts.

Methods

Data source

The data for this study is taken from the Longitudinal Ageing Study in India (LASI), a comprehensive, nationally representative survey conducted among individuals aged 45 and older across India. LASI provides rich information on various dimensions of health, economic, and social well-being, with a focus on ageing. The survey captures detailed data on living arrangements, social interactions, health outcomes, and feelings of loneliness, making it an ideal source for studying the phenomena of living and ageing alone. For this analysis, we utilize responses related to social capital, mental health, and loneliness to construct key variables and explore the gendered experiences of ageing alone among older adults in India. Wave 1 of LASI covered all states and union territories except Sikkim, with a total sample of 72,250, To investigate the objectives of our study, we included samples based on individuals aged 45 years and above Ultimately, our final analytical sample consisted of 65,561 older adults aged 45 and above.

Outcome variables

Health and Wellbeing Domains: Physical health (self-rated health, chronic diseases), mental health (depression, cognitive impairment), and age-related disabilities (ADL, IADL).

Independent variables

Quality of life – The World Health Organization (WHO) defines quality of life (QoL) as an individual's perception of their position in life, taking into account their cultural context, value systems, goals, expectations, concerns, and standards. In essence, it evaluates an individual's overall well-being. For older adults, the QoL variable was constructed using Principal Component Analysis (PCA), creating a composite index. This index is derived from 21 items across six domains: general health, environmental satisfaction, physical health, psychological health, life satisfaction, and social relationships. The QoL and individual domain scores were scaled linearly from 0 to 100, with higher scores indicating a better quality of life (Goyal & Mohanty, 2022).

Physical health was assessed based on activities of daily living (such as dressing, bathing, eating, walking, using the toilet, and getting out of bed), as well as sleep comfort and physical energy levels. Psychological well-being was measured through self-reports of emotions (both positive and negative), inner peace, concentration, satisfaction, and spirituality. Environmental aspects of QoL considered factors like economic status, feelings of safety, and living arrangements. The social domain was evaluated by looking at the number of friends and living conditions. Additionally, life satisfaction and general health were assessed individually.

Ageing Alone

The variable of ageing alone was created using the social capital index and feelings of loneliness. The social capital index (SCI) was constructed based on the following questions asked to respondents in the LASI survey: 1) How many meetings/regular gatherings, if any, do you attend in a year?; 2) Visit relatives/ friends; 3) Attend cultural performances/ shows/ cinema; 4) attend religious functions /events such as bhajan / Satsang / prayer; 5) attend political/ community/ organization group meetings. Each of the above-stated questions had four choices (0-never visited; 1- daily; 2-in a week; 3-in a month; 4-in a year). Responses from all five questions were added, and the final scores were categorized into three equal percentiles: Low, Middle, and high, each demonstrating an equivalent level of social capital.

Following that the ageing alone variable was created as a binary variable, those feeling alone and having low social capital were categorised as 1 “Yes” and otherwise 0 “No”.

Other background characteristics

The following variables such as age (45-59, 60+), gender (male, female), residence (rural, urban), education level (No education, less than 5 years, 5-9 years, 10 or more years), MPCE quintile (Poorest, Poorer, Middle, Richer, and Richest), religion (Hindu, Muslim, and Others) and social group (SC/ST, OBC, and Others).

Analysis

For the statistical analysis, initially, descriptive statistics was used to calculate the prevalence of ageing alone followed by unadjusted logistic regression models to assess the association between ageing alone and various health outcomes, including SRH, multimorbidity, cognitive impairment, depression, and limitations in ADL and IADL. Odds ratios (OR) with 95% confidence intervals (CI) were calculated to

estimate the strength of these associations. Separate models were run for men and women to examine gender-specific effects. A p-value of less than 0.05 was considered statistically significant, and all analyses were conducted using Stata

Results

Table 1 shows that ageing alone is more prevalent among women than men, with 6.23% of women and 3.82% of men experiencing loneliness and low social capital. Older adults in rural areas, those with no education, and those from poorer economic backgrounds are more likely to age alone, particularly women. Employment, higher education, and frequent physical activity are associated with lower rates of ageing alone. Individuals who have experienced ill-treatment are at a significantly higher risk of social isolation, especially women (12.3%). Regionally, the South has the highest prevalence of ageing alone, while the North East has the lowest.

Older adults with poor self-rated health, chronic diseases, cognitive impairment, depression, or functional limitations (ADL/IADL) are more likely to experience "ageing alone" (loneliness and low social capital) (**Table 2**). For example, 7.1% of those with poor self-rated health are ageing alone compared to 3.9% with good health. Similarly, individuals with depression (10.8%) and cognitive impairment (9.5%) have significantly higher rates of ageing alone. The prevalence is higher for women across all categories, especially those with poor health, multiple chronic diseases, or functional limitations. This highlights the strong link between physical and mental health issues and social isolation among older adults.

Older adults ageing alone have significantly lower scores across all domains of quality of life (QoL) compared to those not ageing alone, for both men and women. Men who are ageing alone report lower scores in general health (81.45 vs. 91.13), life satisfaction (69.47 vs. 84.04), physical QoL (86.52 vs. 94.74), social QoL (67.47 vs. 82.41), and overall QoL (79.75 vs. 90.83). Similarly, women ageing alone also have lower scores in general health (80.45 vs. 89.34), life satisfaction (66.35 vs. 82.96), physical QoL (84.23 vs. 93.14), social QoL (62.11 vs. 76.21), and overall QoL (77.75 vs. 88.85). Interestingly, those ageing alone report slightly higher psychological QoL, but overall, ageing alone is associated with a significantly reduced quality of life in both genders, underscoring the negative impact of social isolation on well-being (**Table 3**).

Table 4 shows that ageing alone is significantly associated with worse health outcomes for both men and women. For men, ageing alone increases the odds of poor self-rated health (OR: 1.88), multimorbidity (OR: 1.33), cognitive impairment (OR: 2.03), and depression (OR: 2.71). They are also more likely to face limitations in activities of daily living (ADL) (OR: 2.00) and instrumental activities of daily living (IADL) (OR: 2.03). Similarly, women ageing alone have higher odds of poor self-rated health (OR: 1.82), multimorbidity (OR: 1.23), cognitive impairment (OR: 2.08), and depression (OR: 2.22). They also experience increased risks of ADL (OR: 1.94) and IADL limitations (OR: 1.82).

Conclusion

We find evidence of ageing alone among older adults in India. Both men and women who age alone face significantly higher risks of poor self-rated health, multimorbidity, cognitive impairment, depression, and limitations in daily functioning (ADL and IADL). For men, the findings suggest that ageing alone increases the risk of depression and daily functional limitations, while for women, cognitive impairment and multimorbidity emerge as additional concerns. These gender-specific variations suggest that the experience of ageing alone manifests differently for men and women, shaped by factors such as social roles, economic security, and health conditions. The results of this study highlight the need for urgent attention to the growing issue of social isolation and loneliness among older adults, particularly in societies undergoing demographic shifts, such as India. Strengthening social capital, fostering community engagement, and enhancing access to health and social services can mitigate the risks associated with ageing alone.

References

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Table 1 - Prevalence of Ageing Alone Among Older Adults in India by Gender, Socio-Economic Status, and Demographic Factors, 2017-18

	Ageing alone		
	Men	**Women**	**Total**
Age			
Aged 45-59	2.72 (2.47, 2.98)	4.75 (4.45, 5.06)	3.85 (3.65, 4.06)
Aged over 60	4.85 (4.51, 5.19)	7.8 (7.39, 8.21)	6.39 (6.13, 6.67)
Gender			
Men	-	-	3.82 (3.61, 4.04)
Women	-	-	6.23 (5.99, 6.49)
Educational status			
No education	4.86 (4.43, 5.29)	7.4 (7.05, 7.76)	6.62 (6.35, 6.9)
Less than 5 years	4.15 (3.54, 4.76)	6.41 (5.59, 7.23)	5.14 (4.64, 5.64)
5-9 years	3.82 (3.41, 4.22)	3.95 (3.47, 4.43)	3.86 (3.56, 4.18)
10 or more years	2.37 (2.04, 2.69)	2.37 (1.9, 2.84)	2.36 (2.1, 2.63)
Current working status			
Ever worked but currently not working	5.11 (4.67, 5.56)	7.53 (6.95, 8.11)	6.25 (5.89, 6.61)
Currently working	2.85 (2.62, 3.08)	4.97 (4.55, 5.39)	3.59 (3.39, 3.81)
Never worked	11.21 (9.46, 12.96)	6.39 (6.02, 6.76)	6.65 (6.29, 7.02)
Place of residence			
Urban	2.87 (2.55, 3.19)	4.80 (4.43, 5.18)	3.95 (3.70, 4.20)
Rural	4.24 (3.96, 4.52)	6.92 (6.59, 7.25)	5.67 (5.45, 5.89)
Social group			
SC/ST	4.73 (4.32, 5.14)	6.61 (6.17, 7.06)	5.76 (5.45, 6.07)
OBC	3.67 (3.33, 4.02)	6.44 (6.02, 6.87)	5.16 (4.89, 5.44)
Others	3.32 (2.92, 3.73)	5.45 (4.97, 5.92)	4.46 (4.15, 4.78)
Religion			
Hindu	4.02 (3.76, 4.28)	6.39 (6.09, 6.69)	5.30 (5.10, 5.50)
Muslim	2.71 (2.17, 3.24)	6.22 (5.49, 6.95)	4.58 (4.18, 5.05)
Others	3.30 (2.78, 3.83)	4.34 (3.78, 4.90)	3.89 (3.50, 4.28)
MPCE quintile			
Poor	4.23 (3.87, 4.59)	6.99 (6.57, 7.42)	5.73 (5.45, 6.02)
Middle	3.37 (2.92, 3.83)	5.85 (5.3, 6.39)	4.7 (4.35, 5.07)
Rich	3.63 (3.3, 3.96)	5.59 (5.21, 5.97)	4.68 (4.43, 4.94)
Engage in moderate energetic activities			
Frequent	2.65 (2.38, 2.92)	4.82 (4.53, 5.1)	4 (3.8, 4.21)
Rare	3.84 (3.3, 4.38)	6.51 (5.73, 7.29)	4.95 (4.5, 5.41)
Never	5.22 (4.82, 5.62)	9.78 (9.17, 10.39)	7.21 (6.87, 7.57)
Ill-treated last year			
No	3.87 (3.64, 4.09)	6.08 (5.82, 6.34)	5.06 (4.89, 5.24)
Yes	6.19 (4.72, 7.66)	12.3 (10.56, 14.04)	9.64 (8.46, 10.82)
Region			
North	4.67 (4.12, 5.23)	6.47 (5.87, 7.07)	5.65 (5.24, 6.07)
Central	4.1 (3.51, 4.7)	6.84 (6.11, 7.57)	5.55 (5.03, 5.98)
East	3.57 (3.08, 4.06)	6.19 (5.59, 6.8)	4.95 (4.56, 5.35)
North East	0.94 (0.65, 1.24)	2.28 (1.84, 2.71)	1.64 (1.38, 1.92)
West	1.86 (1.44, 2.27)	3.62 (3.09, 4.15)	2.83 (2.49, 3.18)
South	5.21 (4.69, 5.73)	8 (7.43, 8.57)	6.78 (6.39, 7.18)
Total	**3.82 (3.61, 4.04)**	**6.23 (5.98, 6.49)**	**5.11 (4.96, 5.3)**

MPCE- Mean per capita expenditure

Table 2 - Prevalence of Ageing Alone by Health Status and Functional Limitations Among Older Adults in India, 2017-18

	Ageing alone		
	Men	**Women**	**Total**
Self-rated health			
Good	2.97 (2.73,3.2)	4.79 (4.5,5.09)	3.9 (3.73,4.11)
Poor	5.43 (5,5.87)	8.38 (7.92,8.84)	7.1 (6.8,7.44)
Chronic diseases			
No disease	3.38 (3.11,3.65)	5.75 (5.41,6.09)	4.6 (4.38,4.82)
1 disease	4.18 (3.73,4.62)	6.39 (5.91,6.86)	5.4 (5.11,5.77)
2 or more diseases	4.75 (4.18,5.32)	7.25 (6.65,7.85)	6.2 (5.77,6.61)
Cognitive impairment			
Yes	6.95 (5.92,7.98)	10.49 (9.71,11.27)	9.5 (8.84,10.1)
No	3.54 (3.32,3.75)	5.32 (5.06,5.58)	4.5 (4.29,4.62)
Depression			
No	3.51 (3.3,3.73)	5.8 (5.54,6.06)	4.7 (4.57,4.91)
Yes	8.98 (7.63,10.33)	12 (10.75,13.25)	10.8 (9.84,11.69)
Problems in ADL			
No	3.37 (3.15,3.58)	5.39 (5.13,5.65)	4.44 (4.27,4.61)
Yes	6.51 (5.71,7.31)	9.95 (9.18,10.71)	8.57 (8.01,9.13)
Problems in IADL			
No	3.04 (2.82,3.26)	4.73 (4.45,5.01)	3.85 (3.67,4.03)
Yes	5.98 (5.43,6.53)	8.27 (7.8,8.74)	7.47 (7.11,7.83)

ADL – Activities of daily living, IADL- Instrumental activities of daily living

Table 3 - Estimated scores of Quality of Life and its domains by ageing alone status of older adults, 2017-18

Males	**Ageing alone**				**p-value**
	No		**Yes**		
	Mean	**95% CI**	**Mean**	**95% CI**	
General Health	91.13	(90.8, 91.46)	81.45	(79.2, 83.71)	<0.001
Life Satisfaction	84.04	(83.61, 84.46)	69.47	(66.8, 72.15)	<0.001
Physical QoL	94.74	(94.58, 94.91)	86.52	(84.97, 88.07)	<0.001
Psychological QoL	63.9	(63.61, 64.18)	73.53	(72.09, 74.97)	<0.001
Social QoL	82.41	(82.21, 82.61)	67.47	(66.49, 68.46)	<0.001
Environmental QoL	91.48	(91.27, 91.7)	80.45	(78.87, 82.03)	<0.001
Overall Quality of Life	**90.83**	**(90.69, 90.98)**	**79.75**	**(78.43, 81.07)**	<0.001
Females	**Ageing alone**				**p-value**
	No		**Yes**		
	Mean	**95% CI**	**Mean**	**95% CI**	
General Health	89.34	(89.01, 89.68)	80.45	(78.73, 82.18)	<0.001
Life Satisfaction	82.96	(82.55, 83.37)	66.35	(64.3, 68.41)	<0.001
Physical QoL	93.14	(92.97, 93.31)	84.23	(83.03, 85.44)	<0.001
Psychological QoL	64.31	(64.03, 64.58)	72.46	(71.35, 73.56)	<0.001
Social QoL	76.21	(76, 76.42)	62.11	(61.06, 63.16)	<0.001
Environmental QoL	89.62	(89.39, 89.84)	77.37	(76.1, 78.64)	<0.001
Overall Quality of Life	**88.85**	**(88.7, 89.01)**	**77.75**	**(76.75, 78.76)**	<0.001

Table 4 - Unadjusted Logistic Regression Results for the Association Between Aging Alone and Health Outcomes Among Older Adults

	SRH		Multimorbidity		Cognitive impairment		Depression		ADL		IADL	
Men												
Ageing alone												
No	1	[1.00,1.00]	1	[1.00,1.00]	1	[1.00,1.00]	1	[1.00,1.00]	1	[1.00,1.00]	1	[1.00,1.00]
Yes	1.88***	[1.57,2.24]	1.33*	[1.06,1.65]	2.03***	[1.52,2.71]	2.71***	[2.07,3.55]	2.00***	[1.59,2.51]	2.03***	[1.69,2.44]
Women												
Ageing alone					1	[1.00,1.00]						
No	1	[1.00,1.00]	1	[1.00,1.00]			1	[1.00,1.00]	1	[1.00,1.00]	1	[1.00,1.00]
Yes	1.82***	[1.55,2.13]	1.23*	[1.03,1.47]	2.08***	[1.77,2.44]	2.22***	[1.86,2.64]	1.94***	[1.65,2.27]	1.82***	[1.55,2.13]

Note: SRH-Self rated health, ADL- Activities of daily living, IADL- Instrumental activities of daily living