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# Spousal Co-residence Health and Social Well-being of Older Adults in India

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**Research Article**

**Keywords:** Older adults, Spousal co-residence, Healthy ageing, Mental health

**Posted Date:** August 19th, 2026

**DOI:** https://doi.org/10.21203/rs.3.rs-10576980/v1

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**Additional Declarations:** No competing interests reported.

## Abstract

India's rapidly ageing population has increased the need to understand how spousal co-residence influences the health and well-being of older adults. This study examined the association between spousal co-residence and health conditions, social well-being, and substance use among currently married older adults in India. Data were drawn from the Longitudinal Ageing Study in India (LASI) Wave 1 (2017–18), including 20,209 individuals aged 60 years and above. Outcomes included sleep problems, activities of daily living (ADL), instrumental activities of daily living (IADL), depression, ill-treatment, discrimination, crime victimization, tobacco use, and alcohol consumption. Older adults whose spouses lived away had significantly higher odds of sleep problems and tobacco use, whereas those living with their spouses had higher odds of depression. Spousal co-residence was not significantly associated with functional disability, social well-being indicators, or alcohol consumption after adjustment. Females, rural residents, less educated, and unemployed older adults consistently experienced poorer outcomes across multiple health and social domains. These findings highlight the importance of spousal co-residence in shaping selected health outcomes and underscore the influence of socioeconomic factors. Policies promoting healthy ageing should strengthen family support systems and adopt gender-sensitive approaches to improve the well-being of older adults in India.

## Introduction

The global population is ageing rapidly, with the number of individuals aged 60 years and above projected to reach 2.1 billion by 2050, creating unprecedented social, economic, and public health challenges [1]. India is undergoing one of the fastest demographic transitions worldwide. In 2021, the country had approximately 140 million older adults, and this number is expected to increase to 319 million by 2050, accounting for nearly one-fifth of the total population [2]. The rapid growth of the older population has substantially increased the burden of chronic diseases, functional limitations, mental health disorders, sleep disturbances, and social vulnerability [3–6]. Consequently, promoting healthy ageing has become a major public health priority in India. Health and well-being in later life are influenced not only by biological ageing but also by family structure and living arrangements. Among these, spousal co-residence represents an important yet understudied determinant of healthy ageing. Living with a spouse provides companionship, emotional support, caregiving, financial security, and social control, all of which contribute to improved health and quality of life [7, 8]. Studies have consistently shown that older adults residing with their spouses report greater life satisfaction [9, 10], better physical and mental health improved social well-being [11], and lower engagement in risky health behaviours, including tobacco and alcohol use [12, 13]. Among the various health outcomes affecting older adults, sleep problems, depression, and functional disability are particularly important because they substantially reduce quality of life and increase dependence. Sleep disturbances become increasingly common with advancing age and are strongly associated with chronic diseases and poor health outcomes [14]. Depression, another major public health concern among older adults, has been linked to genetic susceptibility, physical inactivity, poor sleep quality, and chronic health conditions [15–17]. International evidence indicates that living alone or apart from a spouse is associated with a higher risk of depressive symptoms, although these relationships differ across cultural settings [18, 19]. Functional disability, commonly assessed through Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL), is another major indicator of healthy ageing. It reflects an individual's inability to perform essential daily activities independently and often leads to increased caregiving needs and reduced quality of life [20, 21]. Household composition and spousal support have been shown to influence functional health among older adults. Previous studies suggest that older adults living without spouses generally experience poorer functional health than those residing with their spouses, although findings remain inconsistent across countries [22, 23]. Beyond physical and mental health, spousal co-residence also plays an important role in the social well-being of older adults. Elder abuse including physical, emotional, and financial abuse as well as discrimination and crime victimization, represents a growing public health concern worldwide. Approximately 15.7% of older adults experience some form of abuse globally [24]. Older women, individuals with limited education, those living alone, socially isolated persons, and rural residents are particularly vulnerable [25–26]. Age discrimination within families and communities further contributes to adverse social outcomes [27, 28]. The presence of a spouse may provide emotional support and social protection, thereby reducing vulnerability to ill-treatment and social exclusion. Spouses also exert considerable influence on each other's health behaviours through social monitoring, emotional encouragement, and shared lifestyles [29]. Previous studies have shown that married individuals living with their spouses are less likely to engage in tobacco use and excessive alcohol consumption than those living separately [12, 13, 30]. Individual characteristics such as age, gender, educational attainment, employment, and income further influence these health-risk behaviours [31–33]. Although previous studies have examined marital status and living arrangements among older adults, most have focused on broad household structures or spousal migration among younger populations. Evidence on the role of spousal co-residence in shaping multiple dimensions of health among older adults in India remains scarce. The Longitudinal Ageing Study in India (LASI) Wave 1 (2017–18) provides a unique opportunity to investigate these relationships using nationally representative data. This study examines the association between spousal co-residence and health conditions (sleep problems, functional disability, and depression), social well-being (ill-treatment, discrimination, and crime victimization), and substance use (tobacco and alcohol consumption) among older adults in India. It further explores gender and socioeconomic differentials, identifies vulnerable subgroups, and provides evidence to inform gender-sensitive, family-centred policies and interventions for promoting healthy ageing in India.

## Data and Methods

This study used data from the Longitudinal Ageing Study in India (LASI) Wave 1 (2017–18), a nationally representative survey conducted by the International Institute for Population Sciences (IIPS) to examine the health, social, and economic dimensions of population ageing in India [34] (IIPS, 2020). LASI surveyed more than 72,000 individuals aged 45 years and above and their spouses across all states and union territories of India. The present analysis was restricted to currently married older adults aged 60 years and above, consistent with the internationally accepted age threshold for defining the older population. Since the study focused on spousal co-residence, only respondents with a living spouse were included. After excluding individuals aged below 60 years and those who were not currently married, the final analytical sample comprised 20,209 older adults.

# Outcome Variables

The study examined nine outcome variables: sleep problems, functional disability (ADL and IADL), depression, ill-treatment, discrimination, crime victimization, tobacco use, and alcohol consumption. Sleep problems were assessed using the four-item Jenkins Sleep Scale (JSS-4), which measures difficulty falling asleep, waking during the night, early morning awakening, and feeling unrested during the day. Participants reporting any symptom frequently (≥ 5 nights/week) during the past month were classified as having sleep problems [35]. Functional disability was measured using Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). Respondents reporting difficulty in performing at least one ADL or IADL task due to physical, mental, emotional, or memory problems lasting more than three months were classified as having functional disability. Depression was assessed using the 10-item Centre for Epidemiologic Studies Depression (CES-D) scale. Scores ranged from 0–10, with a score of ≥ 4 indicating depressive symptoms [36, 34]. Ill-treatment was measured using a single question asking whether respondents had experienced ill-treatment during the previous year (yes/no). Discrimination was assessed using six questions on perceived unfair treatment in daily life. Respondents reporting any discriminatory experience at least once a month were classified as having experienced discrimination [37] Crime victimization was measured by asking whether respondents had been victims of violent crime (assault, mugging, or threat to life) during the previous 12 months (yes/no).Current tobacco use included respondents who currently smoked or used smokeless tobacco products, while current alcohol consumption referred to respondents reporting alcohol use at least once in the past three months.

### Explanatory Variables

Explanatory variables considered for this study are region (North, Central, East, West, South, Northeast), age group (60–69, 70–79, 80+), Sex (Male, Female), Place of residence (Rural, Urban), Education level (No education, Primary completed, Secondary completed, Higher secondary and above completed), Religion (Hindu, Muslim, Christian, Others), Caste( SC, ST, OBC, Others), current working status (Never worked, Currently not working, Currently working) and MPCE Quantile( Poorest, Poorer, Middle, Richer, Richest).

## Statistical analysis

In order to determine the prevalence of the health condition, social well-being and substance use among male and female by their spousal co-residence status and to examine the disparity in the prevalence of health condition, social well-being and substance use among those who are living with spouse and those whose spouse are staying away by different socioeconomic characteristics, we have used bivariate analysis. Further, as the entire outcome variables are binary in nature with yes and no responses, we have applied binary logistic regression to find the impact or influence of socioeconomic characteristics on their health condition, social well- being and substance use. Data was analysed using STATA 16.0.

### Results

Approximately, below one-fourth of the individuals are facing sleep problems, with a range of 13 percent to 24 percent. Individual with spouses are away experienced higher sleep problems and functional disability (ADL, IADL) than those living with their spouses (Fig. 1).

Moreover, females reported more sleep problems and functional disability than males. Interestingly, those living with spouse experience higher depression symptoms. Overall, individuals with spouses are living somewhere else have faced ill treatment in the past year. Furthermore, males who are living with their spouses have felt ill treatment than their counter part and in contrast, females with spouses are away have felt ill treatment. On the other hand, those who are living with their spouses have faced the discrimination more than their counterparts have. Individuals with spouses are away have been the victim of a violent crime, such as assault/mugging/ threat to life/others than those living with spouses. Tobacco use is higher among those with spouses are away. On the other hand, alcohol consumption is more among those who are living with spouse. The results demonstrate clear age-related deterioration in physical and mental health indicators among older adults.

The proportion of individuals reporting sleep problems and functional disabilities (ADL and IADL limitations) rises steadily with advancing age (Table 1). This pattern aligns with the natural aging process, where physiological decline and chronic morbidity tend to disrupt sleep and impair daily functioning. Interestingly, however, reported depression decreases among those aged 80 years and above, suggesting possible adaptation to late-life circumstances, selective survival (healthier individuals living longer), or underreporting of psychological distress among the oldest-old. Spousal co-residence emerges as an important correlate of late-life well-being. Across all age groups, individuals whose spouses live away are more likely to report sleep problems, highlighting the emotional and psychosocial value of spousal companionship in maintaining healthy sleep. Depression was more prevalent among older adults living with their spouses, possibly reflecting caregiving responsibilities, interpersonal conflicts, or declining spousal health. Rural residents consistently reported higher levels of sleep problems and functional disability than urban residents, regardless of gender or spousal co-residence, likely due to poorer healthcare access and socioeconomic disadvantage. In contrast, depression showed a mixed urban–rural pattern, suggesting contextual differences in social support and isolation. Employment appeared protective, as currently working older adults experienced fewer sleep problems and functional limitations, whereas non-working individuals, particularly those living apart from their spouses, exhibited greater vulnerability due to reduced physical activity, financial insecurity, and weaker social networks.

Percentage distribution of health condition (Sleep problems, ADL, IADL, Depression) amo

| | Sleep Problems | | | | | | Depression | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Total | | Male | | Female | | Total | |
| | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | L s e |
| | % (n = 1490) | % (n = 28) | % (n = 1025) | % (n = 25) | % (n = 2515) | % (n = 53) | % (n = 2919) | % (n = 27) | % (n = 1949) | % (n = 27) | % (n = 4868) | % |
| **Region** | | | | | | | | | | | | |
| North | 11.9 | 35.0 | 14.2 | 33.6 | 12.9 | 34.2 | 24.1 | 18.3 | 27.1 | 2.6 | 25.3 | 9 |
| Central | 15.0 | 13.2 | 19.0 | 43.5 | 16.6 | 25.1 | 32.0 | 16.8 | 36.1 | 28.6 | 33.6 | 2 |
| East | 13.0 | 21.5 | 11.3 | 12.7 | 12.4 | 17.9 | 27.8 | 18.2 | 29.5 | 27.0 | 28.4 | 2 |
| North east | 7.5 | 1.4 | 9.0 | 0.0 | 8.0 | 0.6 | 14.5 | 36.3 | 15.3 | 15.4 | 14.8 | 2 |
| West | 13.7 | 16.5 | 16.4 | 0.7 | 14.7 | 7.3 | 16.1 | 0.0 | 18.7 | 27.4 | 17.1 | 1 |
| South | 12.2 | 20.5 | 12.4 | 34.8 | 12.3 | 27.5 | 31.3 | 28.4 | 32.0 | 39.3 | 31.5 | 3 |
| **Age** | | | | | | | | | | | | |
| 60–69 | 12.6 | 5.8 | 14.1 | 22.2 | 13.2 | 13.3 | 25.9 | 18.5 | 28.3 | 27.7 | 26.9 | 2 |
| 70–79 | 13.5 | 31.4 | 16.8 | 23.0 | 14.4 | 26.9 | 27.2 | 16.7 | 30.8 | 23.0 | 28.3 | 2 |
| 80+ | 15.2 | 44.0 | 10.1 | 40.3 | 14.2 | 43.0 | 28.8 | 14.8 | 27.4 | 19.3 | 28.5 | 1 |
| **Residence** | | | | | | | | | | | | |
| Rural | 13.5 | 23.3 | 15.1 | 24.3 | 14.1 | 23.8 | 27.3 | 13.4 | 29.1 | 24.6 | 27.9 | 1 |
| Urban | 12.0 | 7.3 | 13.0 | 20.6 | 12.4 | 11.7 | 24.4 | 27.2 | 28.0 | 29.0 | 25.7 | 2 |
| **Education level** | | | | | | | | | | | | |
| No education | 13.2 | 27.1 | 15.1 | 21.7 | 14.2 | 23.5 | 30.8 | 19.6 | 30.2 | 28.5 | 30.5 | 2 |
| Primary completed | 13.9 | 12.6 | 14.2 | 27.8 | 13.9 | 15.5 | 27.1 | 13.1 | 25.7 | 0.1 | 26.7 | 1 |
| Secondary complete | 12.7 | 15.8 | 10.5 | 48.0 | 12.3 | 17.5 | 22.5 | 18.2 | 26.3 | 46.3 | 23.3 | 1 |
| Higher secondary and above | 11.4 | 13.9 | 14.1 | 54.6 | 11.9 | 20.9 | 18.9 | 20.2 | 23.8 | 0.0 | 19.7 | 1 |
| **Religion** | | | | | | | | | | | | |
| Hindu | 13.1 | 20.2 | 13.9 | 20.6 | 13.4 | 20.4 | 27.1 | 18.5 | 28.7 | 22.3 | 27.7 | 2 |
| Muslim | 11.8 | 10.6 | 18.3 | 41.9 | 14.0 | 30.9 | 24.9 | 4.3 | 31.5 | 64.1 | 27.4 | 4 |
| Christian | 12.9 | 1.7 | 9.8 | 1.5 | 11.7 | 1.6 | 22.3 | 2.8 | 32.5 | 0.0 | 26.3 | 1 |
| Others | 16.6 | 0.0 | 21.0 | 29.8 | 18.5 | 24.6 | 18.3 | 32.2 | 22.1 | 5.8 | 19.9 | 1 |
| **Caste** | | | | | | | | | | | | |
| SC | 16.5 | 12.0 | 15.9 | 18.0 | 16.3 | 15.8 | 31.4 | 17.9 | 32.8 | 20.1 | 32.0 | 1 |
| ST | 11.9 | 1.2 | 12.6 | 33.1 | 12.1 | 24.0 | 23.7 | 32.6 | 23.0 | 18.5 | 23.5 | 2 |
| OBC | 12.6 | 16.8 | 14.2 | 24.0 | 13.2 | 19.7 | 26.6 | 22.0 | 28.9 | 31.4 | 27.4 | 2 |
| Others | 11.9 | 26.1 | 14.7 | 25.5 | 13.0 | 25.9 | 23.7 | 9.4 | 27.7 | 25.4 | 25.3 | 1 |
| **Working status** | | | | | | | | | | | | |
| Never worked | 16.1 | 1.6 | 13.3 | 19.0 | 13.6 | 16.9 | 39.4 | 96.6 | 27.5 | 21.4 | 28.7 | 3 |
| Currently not working | 14.9 | 22.8 | 17.7 | 22.7 | 15.6 | 22.8 | 27.7 | 16.0 | 32.5 | 26.7 | 28.9 | 2 |

| | Sleep Problems | | | | | | Depression | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Total | | Male | | Female | | Total | |
| | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | L s e |
| Currently working | 10.9 | 14.2 | 13.2 | 37.5 | 11.4 | 20.7 | 24.3 | 9.5 | 27.2 | 31.3 | 25.0 | 1 |
| **MPCE Quantile** | | | | | | | | | | | | |
| Poorest | 13.4 | 14.7 | 13.0 | 24.7 | 13.2 | 19.4 | 29.8 | 13.4 | 31.8 | 38.7 | 30.6 | 2 |
| Poorer | 12.1 | 14.3 | 15.9 | 9.1 | 13.5 | 11.2 | 24.4 | 37.3 | 25.6 | 0.3 | 24.9 | 1 |
| Middle | 12.8 | 28.9 | 13.1 | 20.5 | 12.9 | 26.6 | 26.4 | 13.2 | 26.5 | 44.6 | 26.4 | 2 |
| Richer | 12.8 | 16.3 | 13.5 | 30.1 | 13.1 | 23.6 | 24.2 | 22.8 | 27.8 | 34.4 | 25.6 | 2 |
| Richest | 14.5 | 7.7 | 17.6 | 36.8 | 15.7 | 22.7 | 27.7 | 8.5 | 32.7 | 18.0 | 29.6 | 1 |

Table 2
Result of binominal regression showing influence of socioeconomic characteristics of older adult on sleep problems, depression ADL and IADL

| Background Characteristics | | Sleep problems | | Depression | | ADL | | IADL | |
|---|---|---|---|---|---|---|---|---|---|
| **Characteristics** | | **1** | **2** | **1** | **2** | **1** | **2** | **1** | **2** |
| | North@ | | | | | | | | |
| **Region** | Central | 1.00 | 1.00 | 1.20 | 3.00 | 1.85 | 3.00 | 2.09 | 1.00 |
| | East | 2.00 | 0.98 | 1.03 | 5.00 | 1.03 | 5.00 | 1.04 | 1.00 |
| | North-east | 0.97 | 0.97 | 0.99 | 8.00 | 1.07 | 0.99 | 2.00 | 1.30 |
| | West | 1.04 | 2.00 | 0.99 | 6.00 | 1.20 | 10.00 | 1.45 | 2.50 |
| | South | 1.03 | 1.00 | 1.01 | 1.00 | 1.02 | 7.00 | 2.01 | 2.10 |
| | Male@ | | | | | | | | |
| **Sex** | Female | 1.00 | 7.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.70 | 1.90 |
| | 60–69 years@ | | | | | | | | |
| **Age-group** | 70–79 Years | 1.00 | 5.00 | 1.00 | 1.00 | 1.00 | 1.03 | 1.50 | 1.10 |
| | 80+ | 1.00 | 8.00 | 1.00 | 1.00 | 1.00 | 1.03 | 2.00 | 0.99 |
| | Rural@ | | | | | | | | |
| **Place of residence** | Urban | 1.00 | 0.97 | 1.00 | 5.00 | 1.02 | 0.98 | 0.90 | 0.90 |
| | Illiterate@ | | | | | | | | |
| **Education** | Primary | 1.00 | 1.00 | 1.00 | 0.95 | 1.05 | 0.94 | 0.94 | 1.60 |
| | Secondary | 1.00 | 2.00 | 0.98 | 0.99 | 3.00 | 0.80 | 0.80 | 1.80 |
| | Higher & above | 1.00 | 2.00 | 0.99 | 0.98 | 1.00 | 0.87 | 0.87 | 0.98 |
| | Hindu@ | | | | | | | | |
| **Religion** | Muslim | 1.00 | 2.00 | 1.00 | 4.00 | 1.01 | 1.05 | 0.96 | 0.80 |
| | Christian | 1.00 | 0.97 | 0.98 | 0.98 | 1.03 | 0.97 | 0.98 | 2.20 |
| | Others | 1.00 | 1.70 | 1.00 | 0.96 | 0.98 | 1.02 | 0.98 | 0.99 |
| | SC@ | | | | | | | | |
| **Caste** | ST | 0.97 | 0.98 | 0.99 | 2.00 | 0.98 | 1.04 | 1.04 | 1.80 |
| | OBC | 0.99 | 0.98 | 0.99 | 0.98 | 0.98 | 1.02 | 1.04 | 1.20 |
| | Others | 0.99 | 0.99 | 0.98 | 0.96 | 0.98 | 1.07 | 1.01 | 1.00 |
| | Never worked@ | | | | | | | | |
| **Working status** | Currently not working | 1.01 | 6.00 | 1.03 | 1.00 | 1.02 | 1.05 | 1.00 | 1.00 |
| | Currently working | 1.00 | 10.00 | 1.00 | 0.98 | 0.98 | 0.97 | 1.30 | 5.20 |
| | Poorest@ | | | | | | | | |
| **Wealth** | Poor | 1.00 | 0.81 | 0.99 | 0.97 | 1.00 | 1.00 | 1.01 | 1.00 |
| | Middle | 1.00 | 0.98 | 0.99 | 0.98 | 1.00 | 1.03 | 0.99 | 0.98 |
| | Rich | 1.00 | 3.00 | 1.00 | 0.99 | 1.0 | 1.00 | 0.99 | 0.90 |
| | Richest | 1.01 | 1.00 | 1.01 | 0.97 | 1.00 | 0.97 | 1.00 | 0.85 |

Note ; @ = Reference category, ADL= Activities of daily living, IADL = Instrumental activities of daily livings 1 = With spouse, 2 = Spouse is away

Regression analyses reinforce these associations of spousal co-residence significantly reduces the odds of sleep problems but increases the odds of depression, suggesting that while companionship may promote better sleep, close marital living may also amplify emotional stress (Table 2). Functional disability, however, shows no significant association with spousal co-residence, indicating that such limitations are more strongly shaped by biological and socioeconomic factors than by living arrangements. Individuals residing in urban areas, belonging to OBC or “other” caste categories, and those employed have significantly lower odds of sleep problems, while those adhering to non-Hindu religions, unemployed individuals, and those in the richest income quintile exhibit higher odds. The latter may be due to lifestyle differences or increased health awareness leading to more frequent reporting. Functional ability (ADL and IADL) is shaped by socioeconomic gradient, better-educated individuals and those currently working have significantly lower odds of functional disability Urban residence again confers a protective effect, possibly through greater healthcare access and environmental support. Interestingly, lower ADL limitations

among Scheduled Tribe (ST) and non-Hindu groups (Muslims, Christians, others) may reflect cultural or occupational differences in physical activity and resilience.

As expected, functional disability increases sharply with age, and is more common among females, the non-working, and the richest quintile—perhaps because higher socioeconomic groups live longer, thereby accumulating age-related limitations.

Table 3 shows **ill-treatment and discrimination** vary across age, marital, and employment dimensions. Among those **living with spouses**, ill-treatment peaks at ages 70–79, whereas for those **whose spouses live away**, it is highest among individuals aged 80 and above. This suggests that vulnerability to mistreatment intensifies with dependency and isolation in later life. Similarly, **discrimination is more prevalent among the youngest elderly (60–69) who live with spouses**, while among those whose spouses are away, discrimination is most pronounced in the oldest age group (80+). These findings reveal that both early and late stages of old age carry unique social risks linked respectively to active role negotiation and dependency. **Rural residence is consistently associated with higher rates of ill-treatment and discrimination**, especially among individuals separated from their spouses. This likely reflects entrenched traditional hierarchies, weaker enforcement of elder rights, and social neglect in rural contexts. Employment status presents a complex picture: **working older adults particularly those living away from spouses report higher victimization and ill-treatment**, possibly due to exposure to workplace exploitation or social stigma. In contrast, **unemployed individuals living with spouses report more discrimination**, reflecting role loss and declining social value within households.

Table 3

**Percentage of social well-being (ill treatment, discrimination, victim of crime) among male and female by socioeconomic cha**

| | Ill treatment | | | | | | Discrimination | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Total | | Male | | Female | | Total | |
| | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | L s e |
| | % (n = 416) | % (n = 5) | % (n = 324) | % (n = 5) | %(n = 740) | % (n = 10) | % (n = 721) | % (n = 8) | % (n = 456) | % (n = 7) | % (n = 1177) | % |
| **Region** | | | | | | | | | | | | |
| North | 2.6 | 0.0 | 2.7 | 0.0 | 2.7 | 0.0 | 7.9 | 5.1 | 8.1 | 0.8 | 8.0 | 2 |
| Central | 5.8 | 6.9 | 5.4 | 12.4 | 5.7 | 9.1 | 11.4 | 8.0 | 10.4 | 5.0 | 11.0 | 6 |
| East | 8.0 | 2.8 | 8.4 | 5.3 | 8.2 | 3.9 | 3.3 | 6.3 | 3.3 | 5.4 | 3.3 | 5 |
| North east | 1.7 | 0.0 | 2.2 | 0.0 | 1.9 | 0.0 | 2.7 | 0.0 | 2.5 | 0.5 | 2.6 | 0 |
| western | 3.1 | 0.0 | 3.0 | 0.0 | 3.0 | 0.0 | 4.2 | 16.5 | 6.0 | 0.1 | 4.9 | 6 |
| south | 3.1 | 11.0 | 4.0 | 12.5 | 3.4 | 11.8 | 8.9 | 0.0 | 7.7 | 22.6 | 8.5 | 1 |
| **Age** | | | | | | | | | | | | |
| 60–69 | 4.4 | 2.9 | 5.1 | 9.0 | 4.7 | 5.7 | 7.0 | 4.7 | 6.9 | 8.3 | 6.9 | 6 |
| 70–79 | 6.1 | 5.1 | 5.2 | 0.0 | 5.8 | 2.3 | 6.7 | 7.2 | 6.9 | 0.0 | 6.8 | 3 |
| 80+ | 3.8 | 9.4 | 2.9 | 19.3 | 3.6 | 12.2 | 6.3 | 15.6 | 5.6 | 19.3 | 6.1 | 1 |
| **Residence** | | | | | | | | | | | | |
| Rural | 5.3 | 5.4 | 5.9 | 7.5 | 5.5 | 6.4 | 6.7 | 9.0 | 7.2 | 6.9 | 6.9 | 7 |
| Urban | 3.6 | 2.3 | 2.6 | 0.0 | 3.2 | 1.5 | 7.3 | 2.1 | 5.8 | 0.7 | 6.7 | 1 |
| **Education level** | | | | | | | | | | | | |
| No education | 4.7 | 10.6 | 5.9 | 7.2 | 5.3 | 8.3 | 7.4 | 9.5 | 7.8 | 6.8 | 7.6 | 7 |
| Primary completed | 5.2 | 0.0 | 3.5 | 0.0 | 4.7 | 0.0 | 6.4 | 0.5 | 5.6 | 0.0 | 6.2 | 0 |
| Secondary complete | 5.0 | 3.1 | 3.0 | 0.0 | 4.6 | 2.9 | 6.9 | 8.5 | 3.4 | 0.0 | 6.2 | 8 |
| Higher secondary and above | 4.1 | 0.0 | 0.4 | 0.0 | 3.5 | 0.0 | 6.3 | 12.3 | 3.1 | 0.0 | 5.7 | 1 |
| **Religion** | | | | | | | | | | | | |
| Hindu | 5.0 | 5.1 | 5.0 | 6.5 | 5.0 | 5.7 | 7.2 | 7.6 | 7.3 | 4.1 | 7.2 | 6 |
| Muslim | 4.5 | 0.0 | 6.4 | 11.9 | 5.2 | 7.7 | 5.4 | 3.3 | 5.0 | 21.4 | 5.2 | 1 |
| Christian | 1.9 | 0.0 | 0.9 | 0.0 | 1.5 | 0.0 | 7.3 | 0.0 | 5.6 | 0.0 | 6.6 | 0 |
| Others | 2.6 | 0.0 | 3.5 | 0.0 | 2.9 | 0.0 | 2.7 | 0.0 | 3.6 | 0.0 | 3.0 | 0 |
| **Caste** | | | | | | | | | | | | |
| SC | 5.4 | 0.0 | 6.6 | 11.5 | 5.8 | 7.5 | 7.1 | 3.7 | 9.8 | 0.0 | 8.1 | 1 |
| ST | 4.7 | 0.0 | 6.2 | 0.0 | 5.3 | 0.0 | 5.8 | 0.0 | 7.3 | 12.6 | 6.4 | 9 |
| OBC | 4.8 | 6.5 | 4.7 | 4.7 | 4.8 | 5.8 | 7.4 | 8.5 | 7.0 | 4.7 | 7.2 | 7 |
| Others | 4.5 | 3.9 | 4.1 | 5.3 | 4.3 | 4.4 | 6.1 | 6.9 | 4.6 | 11.5 | 5.5 | 8 |
| **Working status** | | | | | | | | | | | | |
| never worked | 4.7 | 0.0 | 3.7 | 3.2 | 3.8 | 2.8 | 8.4 | 0.0 | 4.4 | 6.8 | 4.8 | 6 |
| currently not working | 4.6 | 6.4 | 5.6 | 0.0 | 4.9 | 3.9 | 7.6 | 6.7 | 8.7 | 3.4 | 7.9 | 5 |

| | Ill treatment | | | | | | Discrimination | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Total | | Male | | Female | | Total | |
| | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | Living somewhere else | Living with spouse | L s e |
| currently working | 5.0 | 1.9 | 7.1 | 31.9 | 5.5 | 10.2 | 5.9 | 8.5 | 9.9 | 11.1 | 6.8 | 9 |
| **MPCE Quantile** | | | | | | | | | | | | |
| Poorest | 5.1 | 9.9 | 6.7 | 6.1 | 5.7 | 8.1 | 7.2 | 8.8 | 8.8 | 6.0 | 7.8 | 7 |
| poorer | 4.1 | 0.0 | 5.7 | 13.2 | 4.7 | 8.0 | 7.2 | 0.0 | 5.8 | 0.0 | 6.7 | 0 |
| Middle | 6.2 | 5.6 | 4.8 | 0.0 | 5.7 | 4.0 | 6.4 | 9.4 | 7.3 | 0.0 | 6.7 | 6 |
| Richer | 3.8 | 3.5 | 3.5 | 8.2 | 3.7 | 6.0 | 6.2 | 11.1 | 5.3 | 22.3 | 5.8 | 1 |
| Richest | 4.8 | 0.0 | 4.1 | 0.0 | 4.5 | 0.0 | 7.3 | 1.5 | 6.8 | 0.0 | 7.1 | 0 |

Table 4
Result of binominal regression showing influence of socioeconomic characteristics of older adult on Ill treatment, faced discrimination and victim of crime

| Background Characteristics | | Ill Treatment | Faced discrimination | Victim of crime |
|---|---|---|---|---|
| **Currently living** | Living with spouse @ | | | |
| | Spouse is away | 0.99 | 0.85 | 0.5 |
| | North @ | | | |
| **Region** | Central | 1.3 | 2 | 2.5 |
| | East | 2.5 | 0.3 | 1.7 |
| | North-east | 0.5 | 0.8 | 0.8 |
| | West | 1.2 | 0.5 | 0.7 |
| | South | 0.9 | 0.85 | 1.6 |
| | Male @ | | | |
| **Sex** | Female | 1.5 | 1.3 | 1.25 |
| | 60–69 years @ | | | |
| **Age-group** | 70–79 years | 1.4 | 1.2 | 1.15 |
| | 80 + years | 0.75 | 0.8 | 1 |
| | Rural @ | | | |
| **Residence type** | Urban | 0.75 | 1.2 | 1.22 |
| | Illiterate @ | | | |
| **Education** | Primary | 1.1 | 0.85 | 1.25 |
| | Secondary | 1.12 | 0.87 | 1.14 |
| | Higher & above | 0.9 | 0.75 | 1.2 |
| | Hindu @ | | | |
| **Religion** | Muslim | 1.1 | 0.8 | 0.55 |
| | Christian | 0.5 | 1.1 | 0.7 |
| | Others | 0.45 | 0.8 | 1.2 |
| | SC @ | | | |
| **Caste** | ST | 0.98 | 0.76 | 0.73 |
| | OBC | 0.8 | 0.8 | 1.2 |
| | Others | 0.8 | 0.78 | 0.75 |
| | Never worked @ | | | |
| **Working status** | Currently not working | 1.8 | 1.9 | 1.5 |
| | Currently working | 1.82 | 1.93 | 2.3 |
| | Poorest @ | | | |
| **Wealth** | Poor | 0.81 | 0.85 | 1.1 |
| | Middle | 1.1 | 0.8 | 1.3 |
| | Rich | 0.75 | 0.8 | 1.7 |
| | Richest | 0.8 | 0.78 | 1.8 |
| Note ; @ = Reference category | | | | |

Regression analyses (Table 4) indicate that spousal co-residence was not significantly associated with ill-treatment, discrimination, or crime victimization among older adults after adjusting for demographic and socioeconomic characteristics. Instead, these outcomes were primarily influenced by gender, age, place of residence, religion, employment status, and economic position. The likelihood of experiencing ill-treatment was significantly higher among females, older adults aged 70–79 years, and both currently working and currently non-working individuals compared with those who had never worked. Among employed respondents, the odds of ill-treatment were higher than among those currently unemployed. Conversely, urban residence and Christianity were associated with lower odds of ill-treatment, suggesting a protective effect of better living conditions and social environments. For perceived discrimination,

Muslims and individuals belonging to other religious groups were less likely to report discriminatory experiences than Hindus. Older adults from richer income quintiles also had lower odds of experiencing discrimination. In contrast, both currently employed and currently unemployed individuals reported significantly higher odds of discrimination than those who had never worked, with employed older adults experiencing the greatest likelihood, possibly reflecting increased social interactions and exposure to discriminatory attitudes. Similarly, victimization from violent crime was not associated with spousal co-residence. However, Muslims had lower odds of being victims of violent crime, whereas individuals aged 70–79 years, those currently not working, and respondents belonging to the richest wealth quintile were significantly more likely to report crime victimization. The higher risk among wealthier older adults may reflect greater exposure to property-related crimes or increased visibility as potential targets.

Regression analyses (Table 5) showed that spousal co-residence was significantly associated with tobacco use but not with alcohol consumption among older adults. Individuals living with their spouses had significantly lower odds of using tobacco than those whose spouses lived elsewhere, highlighting the protective influence of spousal support and social control on health-risk behaviours. Tobacco use was also significantly lower among females, urban residents, Christians and other religious groups, and individuals belonging to OBC and other caste categories. Furthermore, the likelihood of tobacco use declined progressively with increasing educational attainment, suggesting that education plays an important role in promoting healthier behaviours. In contrast, both currently working and currently non-working older adults had higher odds of tobacco use than those who had never worked.

Table 5
Result of binominal regression showing influence of socioeconomic characteristics of older adult on substance use (Tobacco and Alcohol)

| Background Characteristics | | Using tobacco | Consuming alcohol |
|---|---|---|---|
| **Currently living** | Living with spouse @ | | |
| | Spouse is away | 1.7 | 1.5 |
| | North @ | | |
| **Region** | Central | 1.8 | 0.8 |
| | East | 1.7 | 1.1 |
| | North-east | 1.9 | 1.8 |
| | West | 1.29 | 1.03 |
| | South | | |
| | Male @ | | |
| **Sex** | Female | 0.2 | 0.3 |
| | 60–69 years @ | | |
| **Age-group** | 70–79 years | 8 | 0.75 |
| | 80+ | 7 | 0.65 |
| | Rural @ | | |
| **Residence types** | Urban | 0.78 | 1.2 |
| **Education** | Illiterate @ | | |
| | Primary | 0.82 | 0.85 |
| | Secondary | 0.65 | 0.7 |
| | Higher & above | 0.35 | 0.5 |
| | Hindu @ | | |
| **Religion** | Muslim | 1 | 0.25 |
| | Christian | 0.67 | 1.2 |
| | Others | 0.5 | 0.8 |
| | SC @ | | |
| **Caste** | ST | 0.9 | 2.1 |
| | OBC | 0.8 | 0.85 |
| | Others | 8 | |
| | Never worked @ | | |
| **Working status** | Currently not working | 1.65 | 3.2 |
| | Currently working | 2.23 | 3.34 |
| | Poorest @ | | |
| **Wealth** | Poor | 1.03 | 1.5 |
| | Middle | 0.97 | 1.05 |
| | Rich | 1.27 | 1.2 |
| | Richest | 0.9 | 1.33 |
| Note ; @ = Reference category | | | |

Tobacco use being relatively higher among those currently employed, possibly reflecting occupational stress or workplace social norms. No significant association was observed between spousal co-residence and alcohol consumption. However, alcohol use varied substantially across socioeconomic and demographic groups. Females, Muslims, OBC and other caste groups, older individuals, and those with higher educational attainment had significantly lower odds of consuming alcohol. Conversely, alcohol consumption was more common among Scheduled Tribe (ST) individuals and those belonging to the richest wealth quintile, indicating the influence of cultural practices, social norms, and economic status on drinking behaviour. These findings suggest that while

spousal co-residence plays an important role in reducing tobacco use, alcohol consumption is largely shaped by broader demographic, cultural, and socioeconomic factors.

## Discussion

The present study examined the association between spousal co-residence and health conditions, social well-being, and substance use among older adults in India using nationally representative LASI Wave 1 data. Overall, the findings indicate that spousal co-residence is significantly associated with sleep problems, depression, and tobacco use, whereas no independent association was observed with functional disability, social well-being indicators (ill-treatment, discrimination, and crime victimization), or alcohol consumption after adjusting for demographic and socioeconomic characteristics. These findings suggest that spousal co-residence plays a selective but important role in healthy ageing, while broader socioeconomic factors remain major determinants of well-being in later life. Older adults whose spouses lived away were more likely to experience sleep problems than those living with their spouses. This finding is consistent with Chu et al., 2022 [12], who reported poorer sleep quality among older adults living alone, and Nobles et al,. 2015 [38], who found greater psychological distress among Mexican women whose spouses had migrated. Spousal separation may reduce emotional support and increase loneliness, anxiety, and uncertainty, thereby adversely affecting sleep quality. Women also experienced more sleep problems than men, corroborating previous findings [12]. Furthermore, sleep quality deteriorated with advancing age but improved with higher educational attainment, consistent with Muhammad et al., 2024 [39] and Sreepada et al., 2024 [40]. Rural older adults also reported poorer sleep than their urban counterparts, possibly reflecting disparities in healthcare access, infrastructure, and socioeconomic conditions [ 41, 42].

Although functional disability (ADL and IADL) was more common among respondents whose spouses lived away, the association was not statistically significant after adjustment. This suggests that age, education, and socioeconomic conditions contribute more substantially to functional decline than spousal co-residence alone. Similar observations have been reported by Mandal et al., 2023 [43], who demonstrated that older adults living with spouses and children or grandchildren had lower functional disability than those in other living arrangements. Functional disability increased with age but declined with higher educational attainment, supporting previous evidence [23, 33, 41]. Women consistently reported greater functional limitations than men, possibly because of longer life expectancy, accumulated chronic conditions, and lifelong caregiving responsibilities. An important finding of this study is that older adults living with their spouses exhibited higher depressive symptoms than those whose spouses lived away. This contrasts with previous studies reporting lower depression among co-residing couples [12, 19]. One possible explanation is the emotional and physical burden associated with caring for an ill or disabled spouse [43] Traditional family roles may further increase emotional and financial responsibilities among older adults, particularly men, thereby contributing to higher levels of depression despite spousal co-residence. Employment also emerged as an important determinant of health. Older adults who were currently working reported better sleep quality and lower functional disability than those not working, supporting earlier findings [39, 33]. Employment may promote healthy ageing by providing financial security, physical activity, and opportunities for social engagement. Bivariate analyses indicated that older adults whose spouses lived away experienced higher levels of ill-treatment and crime victimization. However, these associations were no longer significant after adjustment, suggesting that spousal co-residence is not an independent determinant of social well-being. Instead, gender, employment status, religion, place of residence, and socioeconomic status explained much of the observed variation. Females were significantly more likely to experience ill-treatment than males, consistent with findings by Jeon et al., 2019 [44]. Gender inequality, economic dependency, and unequal power relations within households may increase women's vulnerability to mistreatment in later life. Similarly, employed older adults reported greater ill-treatment and discrimination than unemployed respondents, possibly because greater social interaction increases exposure to interpersonal conflicts and discriminatory experiences. Muslims reported lower discrimination and crime victimization than Hindus, while wealthier individuals experienced less discrimination but were more likely to report violent crime victimization, perhaps because economically advantaged households are more visible targets. These findings indicate that social well-being among older adults is shaped predominantly by broader socioeconomic and contextual factors rather than spousal co-residence. Spousal co-residence demonstrated a significant protective association with tobacco use but not with alcohol consumption. Spouses may discourage tobacco use through emotional support, social monitoring, and encouragement of healthier lifestyles[29, 30]. In contrast, alcohol consumption was not significantly associated with spousal co-residence, suggesting that drinking behaviour is influenced primarily by cultural, religious, and socioeconomic factors. Consistent with previous studies [32, 31], both tobacco and alcohol use declined with increasing age. Higher educational attainment was associated with lower tobacco and alcohol consumption, supporting earlier evidence that education enhances health awareness and promotes healthier lifestyles [31, 45, 46]. Women consistently reported lower tobacco and alcohol use than men, reflecting prevailing social and cultural norms regarding substance use in India.

## Conclusion

This study demonstrates that spousal co-residence plays a selective but important role in shaping the health and well-being of older adults in India. Living with a spouse was associated with lower odds of sleep problems and tobacco use but higher odds of depressive symptoms, while no significant associations were observed with functional disability, social well-being (ill-treatment, discrimination, and crime victimization), or alcohol consumption. Beyond spousal co-residence, socioeconomic characteristics emerged as major determinants of later-life well-being. Older adults residing in rural areas, women, those with lower educational attainment, and currently non-working individuals consistently experienced poorer health outcomes and greater social vulnerability. Higher educational attainment was protective against adverse health outcomes and substance use. Whereas wealthier older adults were less likely to experience discrimination but had higher odds of crime victimization and alcohol consumption. Overall, the findings highlight that healthy ageing is shaped by the combined influence of family support and socioeconomic circumstances. Strengthening family-centred and community-based support systems, improving access to healthcare, promoting education and economic security, and implementing gender-sensitive policies are essential to enhance the health, social well-being, and quality of life of India's rapidly growing older population. Future research should examine the quality of spousal relationships, caregiving burden, and intergenerational dynamics to better understand the mechanisms linking spousal co-residence with healthy ageing.

## Abbreviations

ADL
Activities of daily living
IADL
instrumental activities of daily living
OBC
Other backward classes
SC
Scheduled caste
ST
Scheduled tribe

## Declarations

**Ethics approval:**

Not applicable. This study used publicly available dataset

**Consent to participate :**

Not applicable. This study analysed a publicly available, database; no individual participants were recruited, contacted, or directly involved.

**Clinical trial number**

Not Applicable

**Consent to publish:**

Not applicable

# Competing interests:

The authors declare no competing interests.

# Funding

The author received no financial support for the research, authorship, and/or publication of this article.

# Author Contribution

The entire research paper is conceptualised, review of literature, data analysis, prepared tables and figures, and paper is written by author.

# Data Availability :

Publicly available datasets were analysed in this study. This data can be found here https://www.iipsdata.ac.in/datacatalog_detail/5

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## Figures

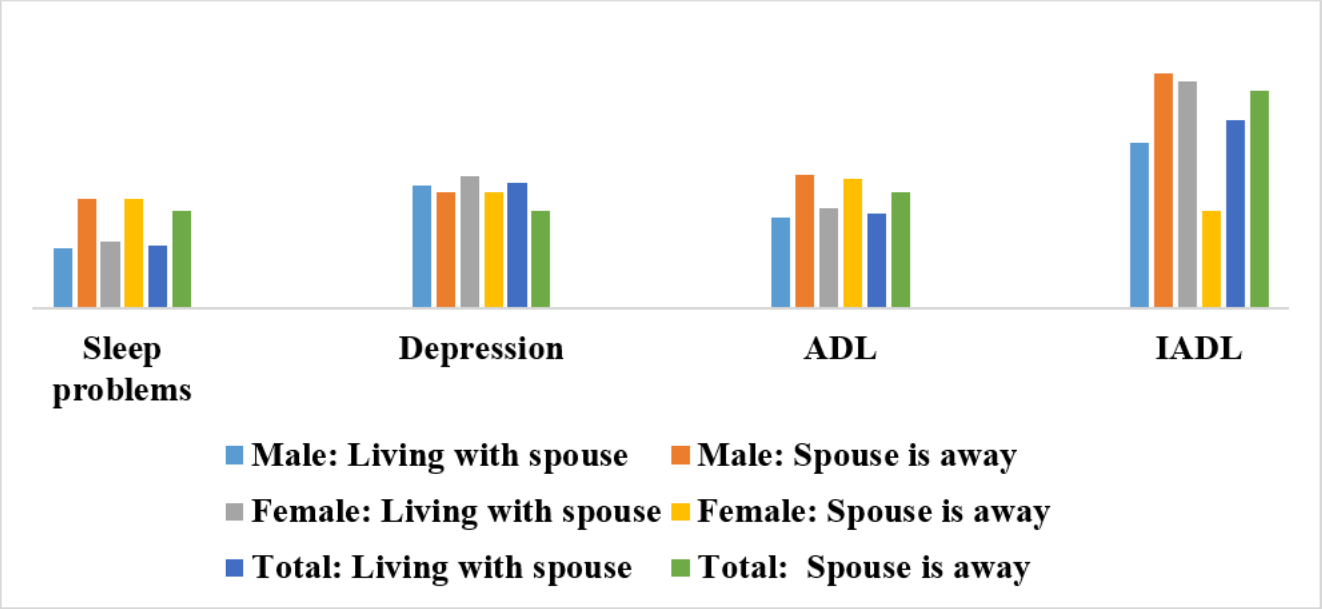



Figure 1

**1Percentage of health condition, social well-being and substance use by spousal residence status in India, LASI-1 (2017-18)**