

सत्यमेव जयते

Longitudinal Ageing Study in India (LASI)

Wave-1

INDIA

EXECUTIVE SUMMARY



NATIONAL PROGRAMME FOR HEALTH CARE OF ELDERLY
&
INTERNATIONAL INSTITUTE FOR POPULATION SCIENCES

MINISTRY OF HEALTH & FAMILY WELFARE
GOVERNMENT OF INDIA





सत्यमेव जयते

Government of India
Ministry of Health and Family Welfare

Longitudinal Ageing Study in India (LASI)

Wave-1

An Investigation of Health, Economic, and Social Well-being of
India's Growing Elderly Population

INDIA EXECUTIVE SUMMARY



Suggested citation: International Institute for Population Sciences (IIPS), NPHCE, MoHFW, Harvard T. H. Chan School of Public Health (HSPH) and the University of Southern California (USC) 2020. *Longitudinal Ageing Study in India (LASI) Wave 1, 2017-18, Executive Summary*, International Institute for Population Sciences, Mumbai.

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INTRODUCTION

Population ageing, which entails an increasing share of elderly age 60 and above in the population, represents an unprecedented global demographic transformation and is expected to intensify during the remainder of the twenty-first century. Population ageing results from demographic transition, a process whereby reductions in mortality are followed by reductions in fertility. Individuals are living longer than ever before. The global life expectancy at birth for males and females reached 68.5 and 73.3 years between 2010 and 2015, up from 45.5 and 48.5 years, respectively, in 1950 (UN Population Prospects, 2019). The UN Population Division (2019) projects global life expectancy to reach 74.5 years for males and 79.1 years for females in 2050.

With approximately 1.36 billion inhabitants in 2019, India is projected to become the world's most populous country in the next six years (UN Population Prospects, 2019). In the 2011 census, the elderly population age 60 and above accounted for 8.6% of the total Indian population, numbering 103 million elderly persons. The share of the elderly population is projected to further rise to 19.5% (319 million) by 2050. Including the pre-retirement phase, the older adult population (age 45 and above) will rise to constitute over 40% of the population of India or 655 million people by 2050. The proportion of the people aged 75 and above is expected to increase by 340% between 2011 and 2050.

The dramatic and widespread nature of these current and ongoing demographic shifts indicates that the population ageing challenges that India will face are both inevitable and exist on an enormous scale. These demographic changes present complex health, social, and economic challenges to which this heterogeneous country must rapidly adapt, both in the present and continuing into the future.

The demographic *vis-a-vis* the epidemiological transition in India has shifted a major share of the country's burden of disease from children to the older population. The transition from high rates to low rates in mortality and fertility that accompanied socioeconomic development also meant a shift in the leading causes of diseases and deaths, known as 'epidemiologic transition'. This is characterised by the waning of infectious and acute diseases and the emerging incidence of chronic and degenerative diseases. However, infectious/parasitic diseases still pose significant challenges to the public health system, causing India to bear a double burden of disease and consequently a significant share of the global burden of disease.

These alarming population projections and the dramatic shift in age-structure call for robust and internationally harmonized data on ageing. Although adult health and ageing is being increasingly investigated, there are currently no comprehensive and internationally comparable national survey data in India that encompass the full range of topics necessary to understand the health, economic, social, and psychological aspects of the ageing process. The LASI is designed to fill this gap.

THE LONGITUDINAL AGEING STUDY IN INDIA (LASI)

Launched in 2016, the Longitudinal Ageing Study in India (LASI) is a full-scale national survey of scientific investigation of the health, economic, and social determinants and consequences of population ageing in India. The LASI is a biennial panel survey representative of older and elderly population age 45 and above for India and its states and Union Territories, as existed at the time of planning of the survey. The LASI, wave 1 covered a panel sample of 72,250 individuals age 45 and above and their spouses, including 31,464 elderly persons age 60 and above and 6,749 oldest-old persons age 75 and above from 35 states and union territories (UTs) of India (excluding Sikkim). This report does not include the data from Sikkim as the data collection is still pending. The LASI is India's first and the world's largest study that provides a longitudinal database for designing policies and programmes for the older population in the broad domains of social, health and economic wellbeing. The LASI is internationally harmonised with the Health and Retirement Study (HRS) and its sister studies around the world to enable cross-national comparisons.

LASI Main wave: Goals, Objectives and Innovations

The specific goals of the LASI are as follows:

1. To develop and implement a nationally representative, longitudinal survey of adult health and ageing in India
2. To provide data that are internationally harmonized with the HRS and its sister studies around the world to enable cross-national comparative studies that will advance understanding of how different institutions, cultures, and policies influence ageing
3. To provide de-identified data to the research community in a timely manner
4. To provide data that will have a strong foundation for national and state-level policymaking and will aid policymakers and researchers around the world in examining how policies and programmes affect population behaviours, health outcomes, and the resulting influences on society
5. To provide a foundation in India for innovative, rigorous, multidisciplinary studies of ageing that will inform policy and advance scientific knowledge

The main objective of the LASI is to provide a comprehensive scientific evidence base on demographics, household economic status, chronic health conditions, symptom-based health conditions, functional health, mental health (cognition and depression), biomarkers, health insurance and healthcare utilization, family and social networks, social welfare programmes, work and employment, retirement, satisfaction, and life expectations.

The LASI has embraced the state of the art of large-scale survey protocols and field implementation strategies with one or more of the following innovative attributes that existing studies lack: representative sample of India and its states and by socioeconomic spectrum, an expansive topical focus, harmonization with HRS, a longitudinal design, coverage of comprehensive biomarkers, and the use of Computer Assisted Personal Interview (CAPI) technology for data collection, quality control and geographic information system (GIS) use. No other survey in India collects detailed data on health and biomarkers together with data on family and social network, income, assets, and consumption.

METHODOLOGY

The LASI adopted a *multistage stratified area probability cluster sampling design* to arrive at the eventual units of observation: older adults age 45 and above and their spouses irrespective of age. Within each state, LASI Wave 1 adopted three-stage sampling design in rural areas and four-stage sampling design in urban areas. In each state/UTs, the first stage involved selection of Primary Sampling Units (PSUs), that is, sub-districts (Tehsils/Talukas), and the second stage involved the selection of villages in rural areas and wards in urban areas in the selected PSUs. In rural areas, households were selected from selected villages in the third stage. However, sampling in urban areas involved an additional stage. Specifically, in the third stage, one Census Enumeration Block (CEB) was randomly selected in each in urban area. In the fourth stage, households were selected from this CEB.

The LASI Wave 1 field survey was conducted across 35 states/union territories (UTs) from April 2017 to December 2018. The HH response rate is defined as the number of HHs which participated in the survey divided by the total number of age-eligible sampled HHs. The overall household response rate is 96%. Household response rate in urban areas is lower (93%) than the rural response rate (97%). The household response rate ranges from 99% in Arunachal Pradesh to 85% in Dadra & Nagar Haveli. Individual response rate is defined as the number of individuals who participated in the survey divided by the total number of eligible individuals in age-eligible sampled HHs. Individual response rate is higher in rural (89.6%) than in urban areas (83.8%). The individual response rate ranges from 96% in Nagaland to 74% in Chandigarh.

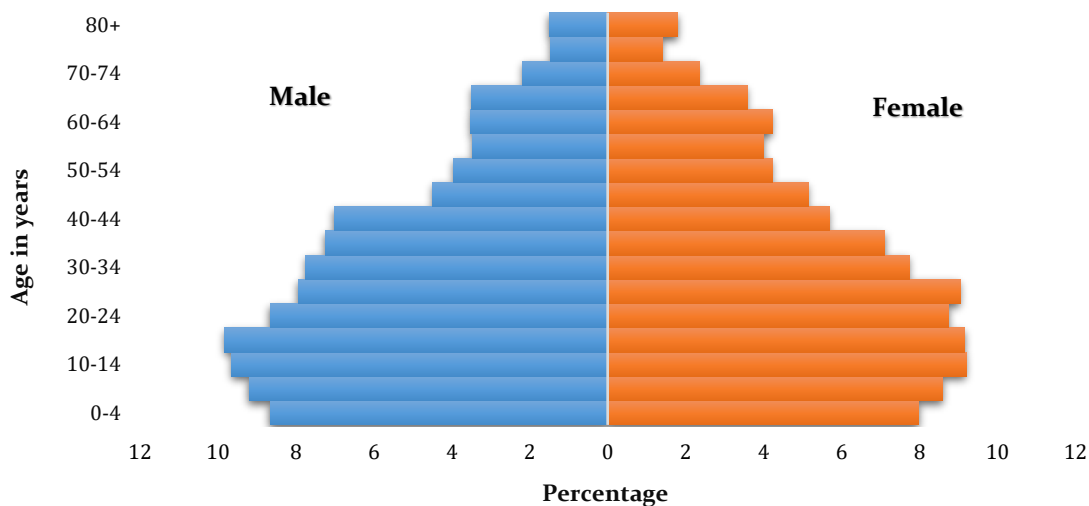
HOUSEHOLD POPULATION CHARACTERISTICS, HOUSING AND ENVIRONMENT

Household population characteristics

In the LASI survey, information on household population characteristics was collected for all sampled households, including age-eligible and non-age-eligible households. In the LASI survey, the total household population is 3,00,017 from 65,506 sampled households (household roster completed).

The population pyramid (Figure 1) illustrates that India's population is relatively young; however, the pyramid also shows a declining population in childhood ages as a result of substantial decline in fertility in India in the last 10 years. The proportion of population according to broad age groups is: 27% are children age 0-14 years, 61% are the working-age population age 15-59 years, and 12% are elderly, age 60 and above. The proportion of children age 0-4 is 9 % in rural areas, compared to 7% in urban areas.

Figure 1 Population pyramid, India, LASI Wave 1, 2017-18



The percentage of elderly age 60 and above is comparatively higher in the demographically advanced states/UTs of Kerala (20%), Himachal Pradesh (17%), Tamil Nadu (16%), Puducherry (16%), and Goa (15%), and this proportion is the lowest in Arunachal Pradesh (6%). In 15 states/UTs, the proportion of elderly is less than the national average of 13%.

The overall sex ratio of household population in India is 984 females per 1000 males. The sex ratio is higher in rural India (996) compared to urban India (964). The sex ratio for the elderly age 60 and above in India is 1065; higher in urban (1084) than in rural (1055) India in favour of females.

The overall age dependency ratio in India is 62 per 100 working-age population with young dependency ratio of 43 and old-age dependency ratio of 19. The overall dependency ratio is slightly higher in rural areas (67 per 100 working-age population) than in urban areas (54 per 100 working-age population). The mean household size in India is 5.7 persons per household. The mean household size in urban India is slightly smaller (5.2) than those in rural India (5.9).

Overall, 69% of females and 84% of males age 6 and above in India have ever attended school; 31% of females and 16% of males have never attended school. The median years of schooling is 8 years, which is slightly higher among males (9 years) than among females (8 years). The median years of schooling is higher in urban areas (10 years) than in rural areas (8 years). Kerala has the highest literacy rate (96%), followed by Mizoram (94%), Lakshadweep (93%), and Chandigarh (89%), while the literacy rate is the lowest in the states of Uttar Pradesh (72%), Andhra Pradesh (71%), Telangana (67%), and Bihar (66%).

Four-fifths (80%) of the surveyed household heads are Hindu, 14% are Muslim, 3% are Christian, 2% are Sikh, and 2% are Buddhist/Jain/Jewish/Parsi. In India, 21% of household heads are Scheduled caste (SC), 9% are Scheduled tribe (ST), 47% are Other backward class (OBC) and 23% are other caste. The majority of households surveyed in LASI are headed by males (85%) compared to 15% by females. Female headship is lower in the north Indian states of Bihar (16%), Uttar Pradesh (14%), Rajasthan (13%), Chhattisgarh (13%), Jharkhand (10%), and Madhya Pradesh (10%), with the lowest in Jammu & Kashmir (5%).

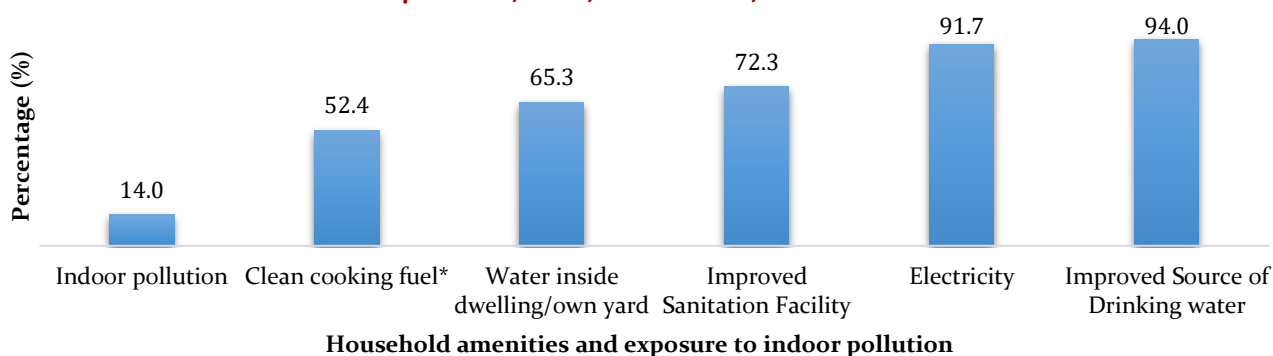
The death rate during the survey period of 2017-18 is 7.7 per 1000 population in India. Among states/UTs, the death rate is higher in the states of Himachal Pradesh (9.5), West Bengal (9.2), Uttarakhand (8.6), Manipur (8.5), Jharkhand (8.4), Odisha (8.3), and Madhya Pradesh (8.3). The death rate for the elderly age 60 and above is 38.4 deaths per 1000 population.

Housing and environment

In the LASI survey, information was collected on the following components of housing and environment for the LASI age-eligible households (LEH): number of rooms and kitchen, sanitation facilities, source of drinking water and a method to make water safer for drinking, electricity, main source of fuel, indoor pollution, the use of different products which generate smoke inside the household, house construction material, and the general condition of the house.

In India, most of the LASI households with an age-eligible member age 45 and above have access to an improved source of drinking water (94%) and electricity (92%) (Figure 2). All households in Lakshadweep have access to an improved source of drinking water while Manipur has the lowest percentage (57%) of households with an improved source of drinking water. About 48% of the households have various sources of drinking water in their dwelling, another 21% have it in their yard or plot, and a third of households do not have a water source located inside their dwelling or in their own yard. The electricity coverage of households is almost universal in urban areas (98%), compared to rural areas (89%).

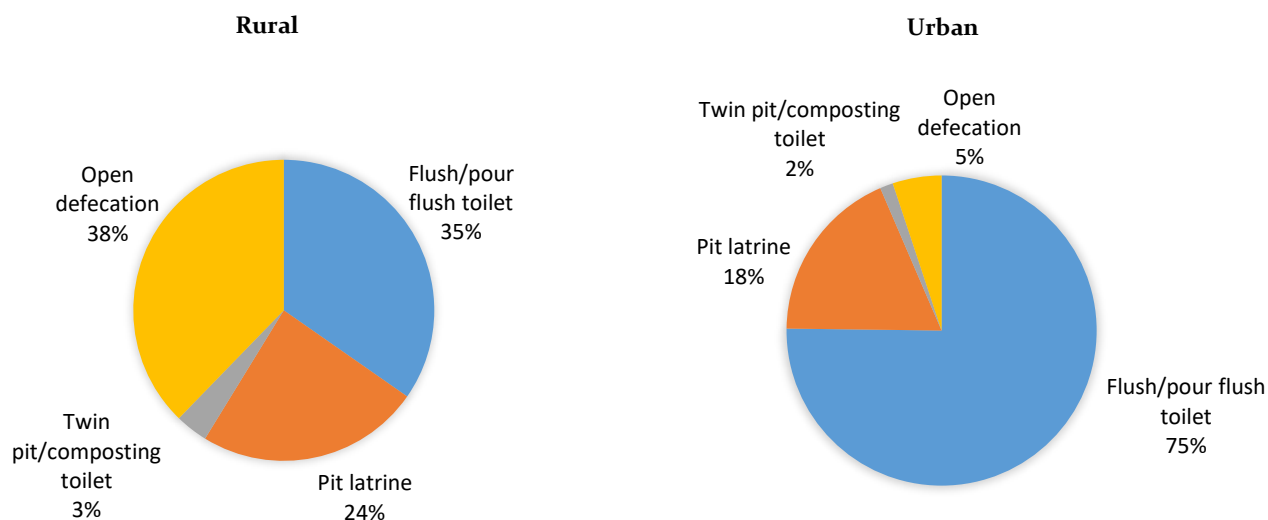
Figure 2 Percentage of households with access to selected household amenities and exposure to indoor pollution, India, LASI Wave 1, 2017-18



* Clean cooking fuel includes Liquid Petroleum Gas (LPG), biogas and electricity

In India, 34% of the households used some method to make water safer for drinking. Among these households, 43% strain the water through a cloth, 20% use an electric purifier, 17% boil the water, 13% use a water filter, 3% add chlorine/bleaching powder, and 1% use alum to purify the drinking water.

Figure 3 Percent distribution of households with types of sanitation facilities by place of residence, India, LASI Wave 1, 2017-18



Nearly three-fourths of LASI age-eligible households (73%) have access to some type of sanitation facilities; about 48% of the households use a flush toilet, 22% use a pit latrine and 3% use a composting/twin pit. Further, slightly more than a fourth (27%) of the households practise open defecation. In urban areas, the majority of the households use flush/pour flush toilet (75%). Slightly less than two-fifths (38%) of the rural households practise open defecation compared to only 5% of urban households (Figure 3). In rural areas, the proportion of households practicing open defecation is high in the states/UTs of Uttar Pradesh (63%), Bihar (63%) and Dadra & Nagar Haveli (56%); in urban areas, the states with the high percentages of open defecation are Odisha (13%), Tamil Nadu (13%) and Jammu & Kashmir (10%).

More than half of the LASI age-eligible households (52%) use clean cooking fuel; among these, most households (88%) in urban areas use Liquid Petroleum Gas (LPG) for cooking, compared to approximately one-third (35%) in rural areas. Half of the households (51%) in rural areas still use wood or shrubs; a smaller proportion (7%) uses cow dung for cooking. In India, 14% of the households are exposed to indoor pollution. Exposure to indoor pollution is higher in rural areas (19%), compared to urban areas (3%), where households use wood and shrubs as fuel for traditional stoves or open fires. A higher proportion of households are exposed to indoor pollution in the states/UTs of Haryana (27%), Punjab (28%), Uttar Pradesh (31%), and Jharkhand (32%).

HOUSEHOLD ECONOMIC WELL-BEING OF OLDER ADULTS

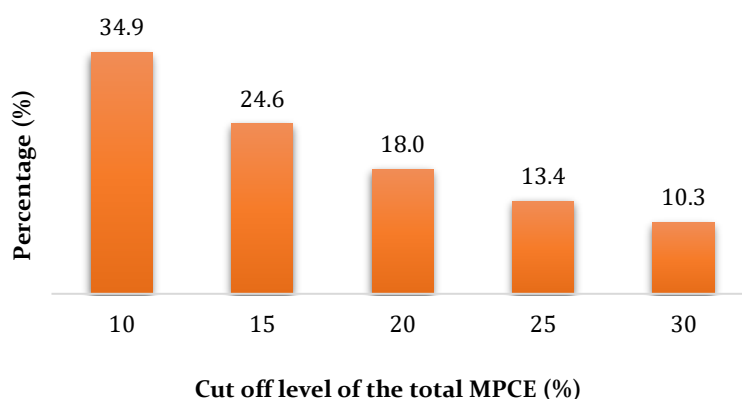
The economic well-being of households is the key determinant of elderly health. In the absence of a robust and universal social security system and with, low coverage of old-age pension, a large share of employment in the informal sector, early retirement from formal employment, and increasing health expenditure, elderly households in India are economically vulnerable and prone to financial shocks. In the LASI survey, economic wellbeing is assessed using a comprehensive range of economic measures: monthly per capita consumption expenditure (MPCE), per capita income (PCI), financial assets and indebtedness, and household health insurance.

Household consumption

The monthly per capita consumption expenditure (MPCE; a summary measure of household consumption) for LASI age-eligible households (with at least one-member age 45 and above) is ₹2,967 in India. The MPCE is lower in rural areas, in larger size households and among households with an elderly member (60 and above) than their counterparts. The cross-state variation in MPCE is large; MPCE is higher than the national average in the economically developed states/UTs of Chandigarh (₹5,691), Goa (₹4,713), and Punjab (₹4,285). MPCE is lower than the national average in states/UTs such as Chhattisgarh (₹1,945), Bihar (₹2,007), Odisha (₹2,316), and Uttar Pradesh (₹2,348). About half of the consumption expenditure in India is spent on non-food items; this proportion is higher in the economically more developed states compared to less developed states. About one-fifth (21%) of the LASI age-eligible households experienced hospitalization of at least one member in the 12 months prior to the survey. This proportion ranges from 10% in the state of Andaman & Nicobar Islands to 32% in the state of Arunachal Pradesh.

The monthly per capita out-of-pocket (OOP) expenditure on health accounts for 13% of MPCE in India. The per capita OOP expenditure of the richest quintile is about 16 times higher than that of the poorest quintile, suggesting that the ability to pay for health care is a driver of OOP expenditure. The per capita OOP health expenditure of households with at least one elderly member is ₹405 compared to ₹352 among households with no elderly member; the OOP health expenditure is highest in Jammu & Kashmir (19%) and the lowest in Daman & Diu (5%).

Figure 4 Catastrophic health spending at various thresholds, India, LASI Wave 1, 2017-18



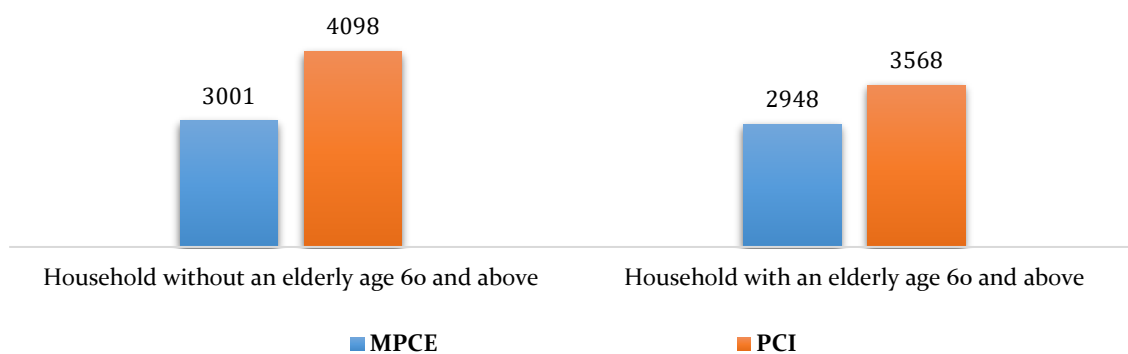
Catastrophic health spending occurs when it amounts to 10% or more of the total consumption expenditure. The extent of Catastrophic Health Spending (CHS) declines with the increasing MPCE cut-off point (Figure 4). Eighteen percent of households incurred CHS even at the 20% cut off level. About 35% of households in India incurred CHS (OOP expenditure exceeding 10% of consumption expenditure). CHS is the highest in Jammu & Kashmir (51%) followed by West Bengal (44%) with the lowest in Andaman & Nicobar (7%) followed by Daman & Diu (14%). In both out-patient and inpatient care, medicine accounts for the largest share of health expenditure.

Household income

Annual Per Capita Income (PCI) is the direct measure of households' economic well-being. Income is a critical part of financial security for the economic well-being of elderly households and, therefore, may fluctuate depending on the movement of the economy. In India, household income tends to be grossly underreported among both the rich and the poor.

Overall, the annual PCI for LASI age-eligible households in India is ₹44,901. The annual PCI varies by sources; annual PCI is ₹20,065 from wages and salaries, ₹9,063 from agricultural and allied activities, ₹5,155 from non-agricultural business, ₹3,649 from pension and ₹1,513 from government transfers. Annual PCI is the highest in Chandigarh (₹1,04,387), followed by Andaman & Nicobar Islands (₹70,753), whereas it is lower in the states of Bihar (₹26,628), Uttar Pradesh (₹28,331), Meghalaya (₹29,461) and Jharkhand (₹34,452).

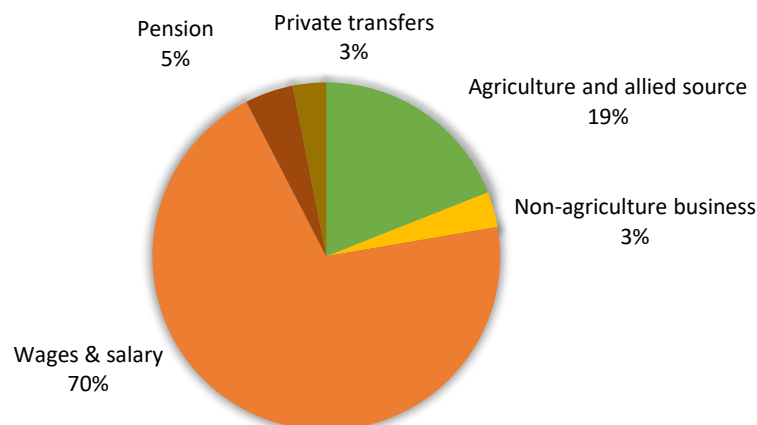
Figure 5 Monthly per capita consumption expenditure (MPCE) and monthly per capita income (PCI) in (₹) in households with and without an elderly, India, LASI Wave 1, 2017-18



The MPCE of a household with at least one elderly person age 60 and above is ₹2,948 compared to households with no elderly member (₹3,001) (Figure 5). The monthly PCI of a household with at least one elderly person age 60 and above is lower than households with no elderly member (₹3,568 vs ₹4,098).

About half of the LASI age eligible households (48%) perceived their financial status as 'about the average'. Ten percent of households perceived themselves to be 'well off' and only 3% of households considered themselves to be in the 'very well off' category. Thirty-two percent and 8% of households perceived their financial status as "below average" and "well below average" respectively. Six percent of households in urban areas perceived their financial status to be very well off, compared to only 1% in rural areas.

Figure 6 Percent distribution of households with only one source of income, India, LASI Wave 1, 2017-18



Among households with only one source of income, 70% have income from wages and salary, 19% from agricultural and allied source, 5% from pensions, and 3% each from private transfers and non-agriculture business (Figure 6).

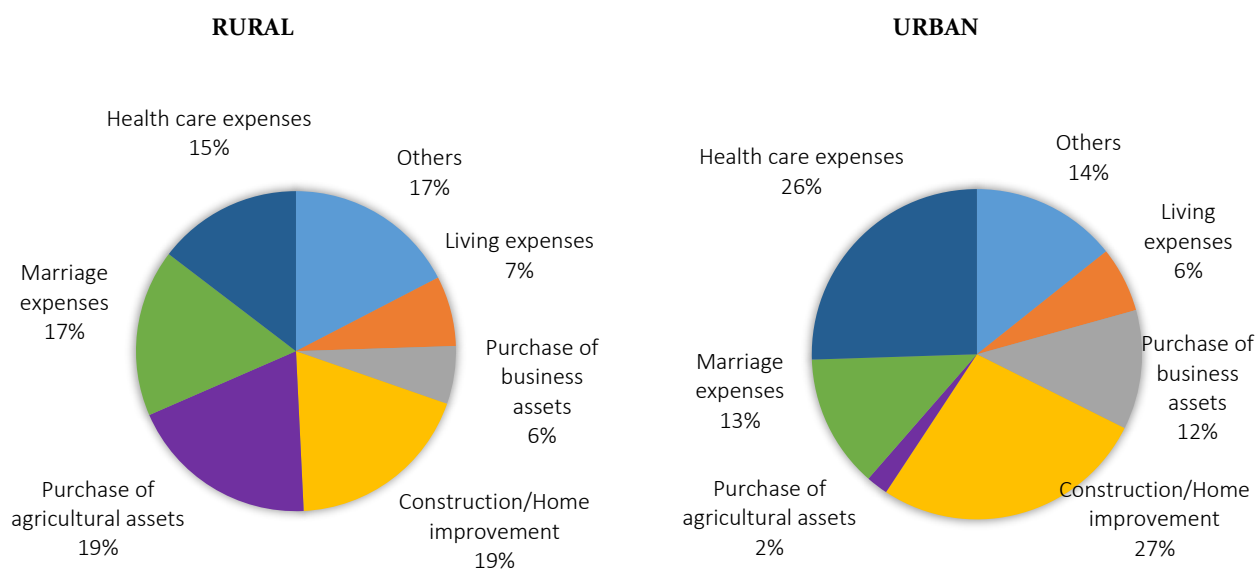
Household assets and debts

Housing is a major issue in urban India as people spend over a quarter of their income on rent. In India, 95% of rural households (LASI age eligible) own their residence, compared with 77% of households in urban areas. Among those who own their house in rural areas, 47% built the house, 42% inherited or received it from family, and 5% purchased the house. Five percent of households obtained their house from central and state governments. The percentage of households purchased is higher in the urban (24%) than in the rural areas (5%).

More than two-fifths of the households (46%) in India do not own land, 3% of households own non-cultivable land, and 43% of households own either cultivable or non-cultivable land. The mean size of cultivable land holding is 2.8 acres and non-cultivable land is 2.0 acres. About 93% of households in Puducherry do not own any land, compared with only 12% in Himachal Pradesh.

In the LASI survey, data was also collected on the ownership of 21 consumer durables, along with the main mode of transport. The penetration of mobile phones shows that phones are the most prevalent consumer durable in Indian households. Eighty-seven percent of households in India have a mobile phone. Half of the households (52%) have a motorised vehicle (either a two-wheeler or car), and only 7% of households have a car.

Figure 7 Percent distribution of indebted households according to the purpose of loan (among those who had any loan) according to place of residence, India, LASI Wave 1, 2017-18

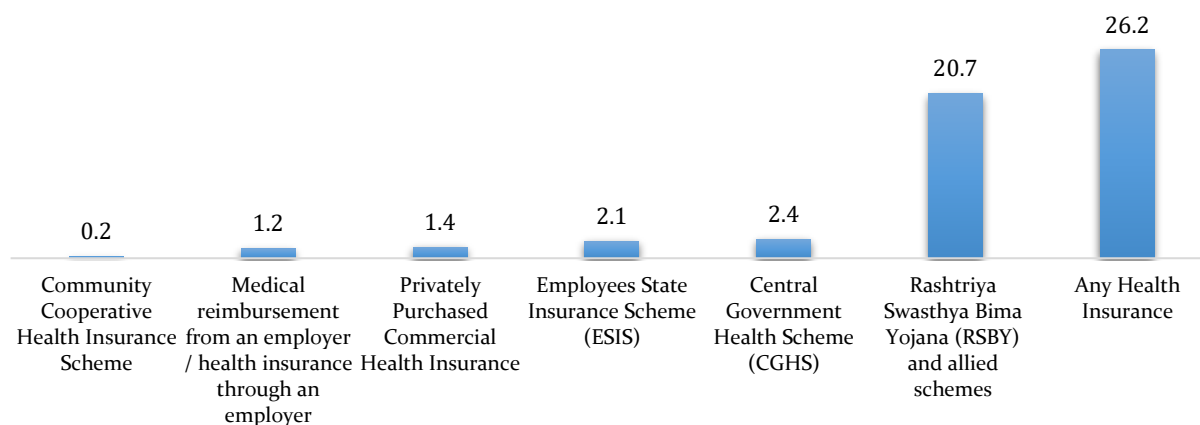


The proportion of households who had taken loan is 32% in India. The mean household loan amount (first largest loan) is ₹2,13,282: ₹1,42,569 in rural areas and ₹4,71,763 in urban areas. Purchase of agricultural assets, construction/home improvement of current residence, health-related expenses, and marriage expenses are the most dominant reasons for household indebtedness. The purchase of agricultural assets or construction/home improvement of current residence is the predominant reason for taking loans in rural areas, followed by marriage expenses and health care expenses (Figure 7). In urban areas, construction/home improvement of current residence is the single largest debts, followed by loans for covering health-related expenses and marriage expenses.

Household health insurance

In India, 26% of the LASI age-eligible households are covered by health insurance ranging from 66% in Mizoram to just 1% in Nagaland. Slightly more than a fifth of households (21%) in India are beneficiaries of Rashtriya Swasthya Bima Yojana (RSBY) and allied schemes. RSBY and allied schemes are popular in several states such as Mizoram (65%), Odisha (62%), Assam (59%), Dadra & Nagar Haveli (56%), and Goa (54%), where more than half of the total households are covered under this health insurance scheme.

Figure 8 Percentage of households covered by type of health insurance, India, LASI Wave 1, 2017-18



Note: Any health insurance includes one or more types of health insurance

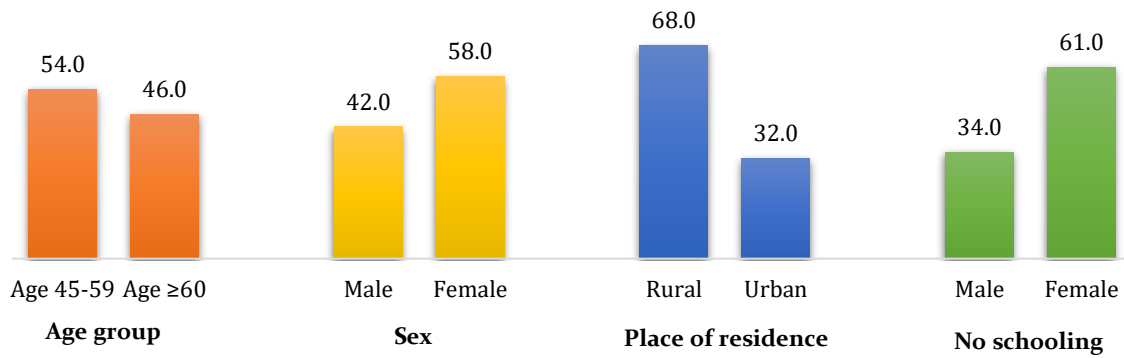
The coverage of other health insurance schemes is quite low in India: Central Government Health Scheme (2.4%), Employees State Insurance Scheme (2.1%), Privately Purchased Commercial Health Insurance Scheme (1.4%), medical reimbursement from an employer/health insurance through an employer (1.2%) and Community Cooperative Health Insurance Scheme (0.2%) (Figure 8).

DEMOGRAPHICS

Information on selected demographic and socio-economic characteristics of the individuals aged 45 years and above and their spouses (irrespective of age) is provided in this section. In the LASI survey, a total of 72,250 individual respondents, including age-eligible respondents (45 years and above) and their spouses (irrespective of age), were interviewed from 35 states and union territories of India. Of these, 30,569 are males, and 41,681 are females. Fifteen percent of the female respondents and a smaller number of male respondents are less than 45 years of age. These are mainly the spouses of age-eligible respondents and are primarily females. By residence, in both rural and urban India, almost the same proportions of respondents were interviewed across various age groups.

Sixty-eight percent of the older adults age 45 and above interviewed are from rural areas, while 32% are from urban areas. Among older adults age 45 years and above, 76% are currently married, 22% are widowed, and 3% are divorced/separated/deserted/other. More than a third (36%) of the elderly age 60 and above are widowed compared to 9% of the older adults age 45-59. The proportion of widowed is higher among older adult women (30%) than older adult men (10%). Three-fifths of the older adult women and a third of the older adult men age 45 and above have never attended school. No schooling is much higher among elderly women age 60 and above than older adult women in the 45-59 age group (Figure 9).

Figure 9 Percent distribution of older adults by selected background characteristics, India, LASI Wave 1, 2017-18



The majority of older adults belong to the Hindu religion (82%), followed by Muslim (12%), Christian (3%), and Sikh (2%). Nine percent of older adults are Scheduled tribe (ST), 19% are Scheduled caste (SC), 46% are Other backward class (OBC) and 27% are none of them. The majority of the older adults from Mizoram (99%), Lakshadweep (99%), Meghalaya (82%), Nagaland (90%), half of the respondents from Arunachal Pradesh (54%), and a third of those from Andaman & Nicobar Islands (34%) are Christian.

In India, nearly half (51%) of the older adults age 45 and above have been staying in their current place of residence for a duration exceeding 50 years or since birth; 41% since birth, and 11% for more than 50 years. Around a third (34%) of them have stayed for 25-49 years and 15% for less than 25 years in the current place of residence. Sixty-eight percent of older adult men have lived in their current place of residence since birth as compared to 20% of older adult women. Hindi is the predominant language (34%) across India, followed by Bengali (10%), Marathi (9%), Tamil (8%), and Telugu (7%).

Figure 10 Percent distribution of marital status among older adults age 45-59 and the elderly age 60 and above according to sex, India, LASI Wave 1, 2017-18

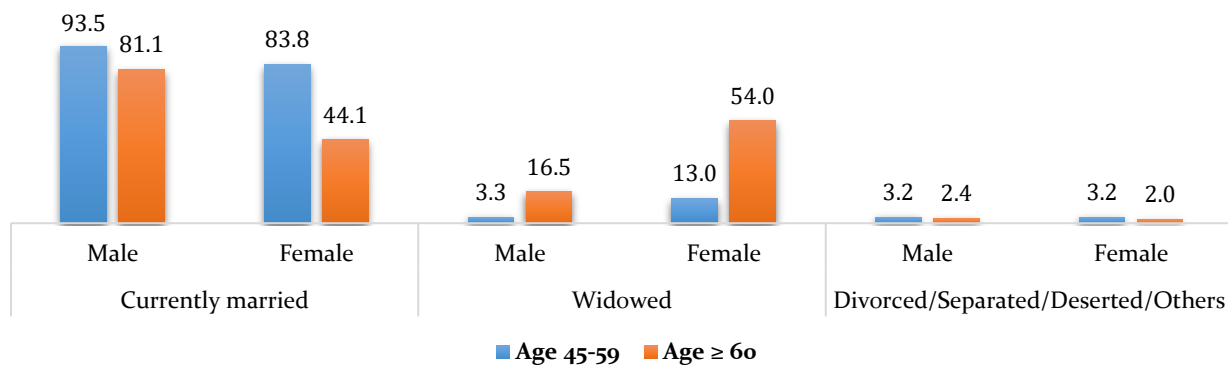


Figure 11 Percent distribution of educational attainment among older adults age 45-59 according to sex, India, LASI Wave 1, 2017-18

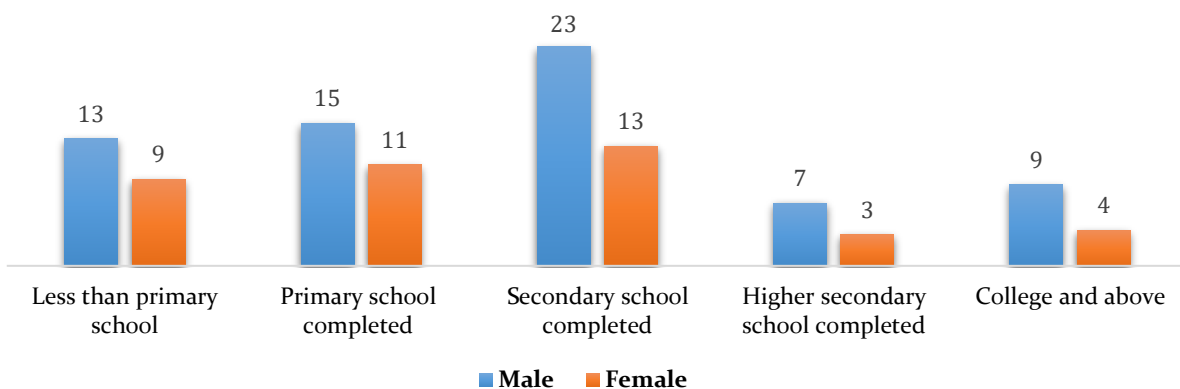
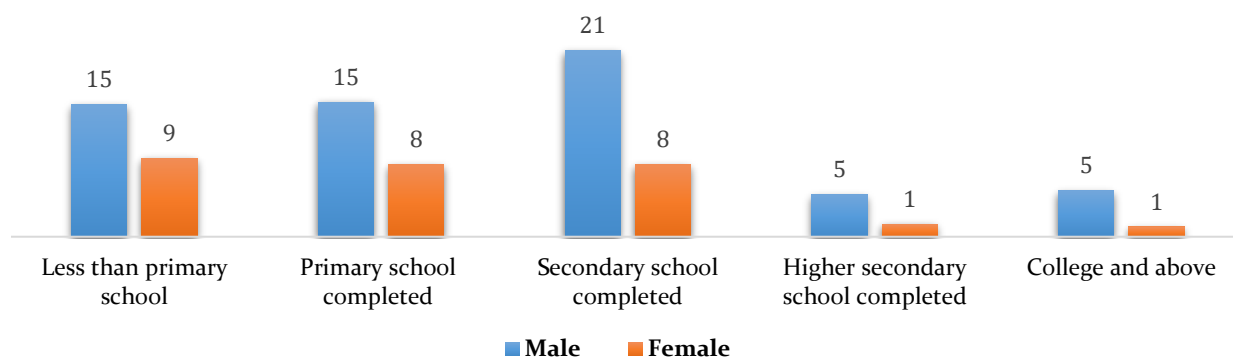


Figure 12 Percent distribution of educational attainment among the elderly age 60 and above according to sex, India, LASI Wave 1, 2017-18



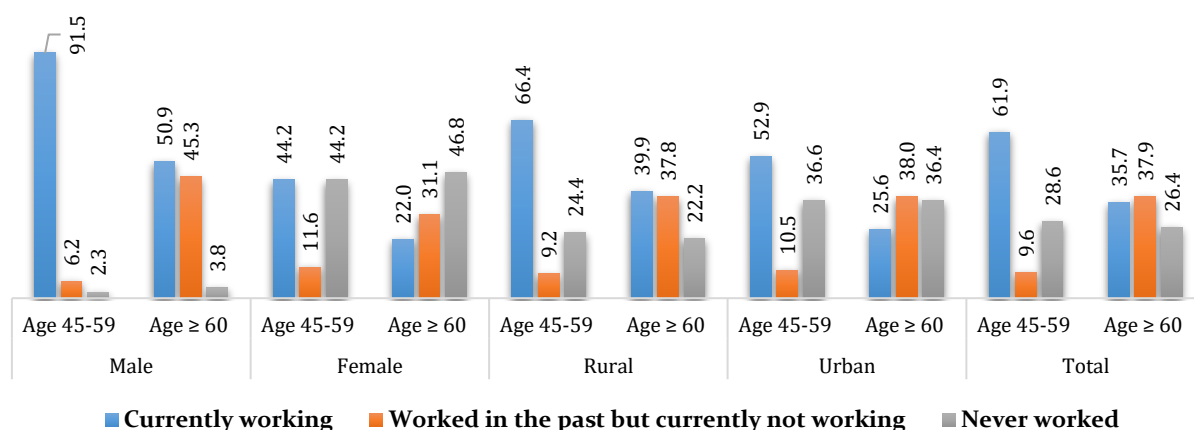
WORK, RETIREMENT, AND PENSION

Participation in economic activities is positively associated with the economic and social wellbeing of the older adults. Opportunities for participation in labour activities, access to social protection, and security in old age, as well as a positive workplace environment are keys to achieving a productive ageing society. In the LASI survey, information was collected on employment characteristics, social insurance coverage, retirement benefits, pensions and provident fund coverages. The definition of work used in the LASI survey is comprehensive and includes agricultural work, wages/salary, self-employed activities, and unpaid family business work excluding one’s own housework. Three mutually exclusive categories of work are defined: a) currently working (worked at the time of the survey), b) worked in the past for at least 3 months continuously at some point in their lifetime, but currently not working, and c) never worked.

Work

Overall, in India, nearly three-quarters (73%) of older adults age 45 and above have ever worked, and half of them (50%) are currently working. The work participation declines with age; about three-fifths (62%) of the older adults age 45–59 and slightly more than a third (36%) of the elderly age 60 and above are currently working (Figure 13). Among elderly age 60 and above, half of men (50%) compared to 22% of women are currently working. The proportion of elderly age 60 and above who are currently working is higher in rural areas (40%) than in urban areas (26%), indicating that rural elderly continue to work in the agriculture sector beyond age 60. An almost equal proportion of elderly age 60 and above have worked in the past but currently not working while a higher proportion (36%) of urban elderly never worked compared to 22% of rural elderly.

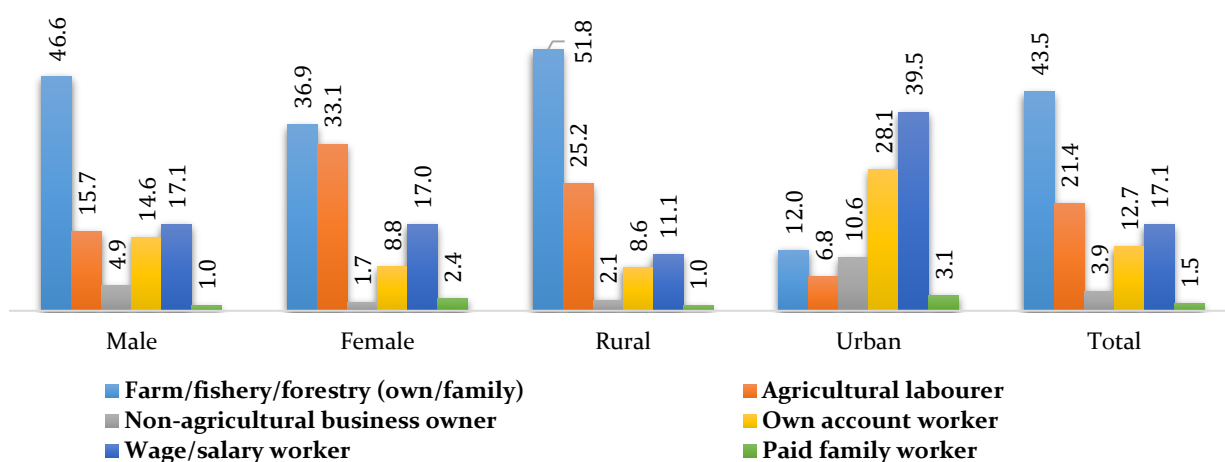
Figure 13 Percent distribution of older adults age 45-59 and the elderly age 60 and above by work status according to sex and place of residence, India, LASI Wave 1, 2017-18



Among older adults age 45-59, 62% are currently working and 9% (who have ever worked) are neither currently working nor officially retired in India while, among the elderly age 60 and above, 34% are currently working and 32% are neither currently working nor officially retired from organised sector of employment.

The Indian labour market is dominated by an unorganised sector of employment, mainly agriculture. About two-thirds (65%) of the elderly age 60 and above who are currently working, are engaged in agriculture and/or allied activities (either farm/fishery/forestry/agricultural labour); 17% of elderly men and 24% of elderly women are wage/salary earners (Figure 14). Regardless of age, the proportion of women engaged in agriculture and allied activities is higher than that of men. Forty-seven percent and 16% of elderly men age 60 and above are engaged in farm/fishery/forestry (own/family) and as agricultural labourers, respectively. Just over half of the rural elderly age 60 and above (52%) are engaged in farm/fishery/forestry whereas 40% of the urban elderly are wage/salary earners.

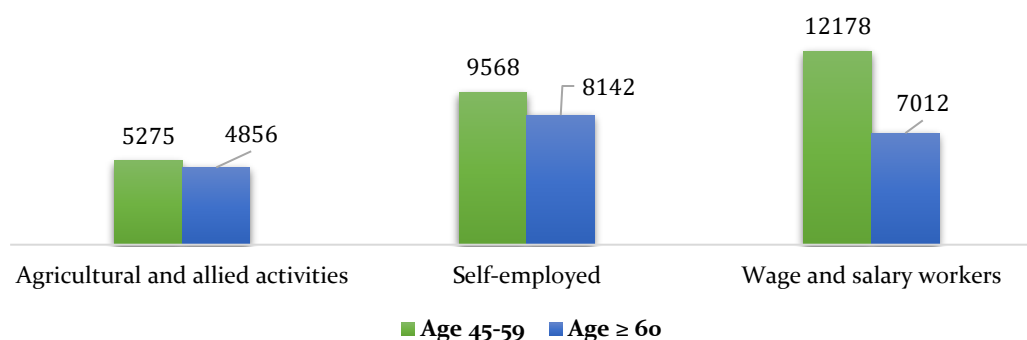
Figure 14 Percent distribution of currently working elderly age 60 and above by type of main job according to sex and place of residence, India, LASI Wave 1, 2017-18



In almost all the states/UTs, a larger proportion of elderly workers are engaged in agricultural and allied activities than of their older adult counterparts. In Nagaland (90%), Himachal Pradesh (81%), Chhattisgarh (77%), and Jharkhand (76%), more than three-fourths of the elderly are engaged in agricultural and allied activities. However, in Delhi (59%), Jammu & Kashmir (41%), and Goa (38%), a sizeable proportion of elderly workers are self-employed, and more than half of the elderly in Chandigarh (66%) are engaged as salaried workers.

The mean monthly individual earnings from agricultural and allied activities for currently working elderly age 60 and above is ₹4856, ₹8142 for those who are self-employed, and ₹7012 for wage and salaried workers (Figure 15). The mean monthly earnings for elderly age 60 and above who are engaged in any type of work is lower than that of the earnings of older adults age 45-59.

Figure 15 Mean monthly earnings from work related activities of currently working older adults age 45-59 and elderly age 60 and above, India, LASI Wave 1, 2017-18

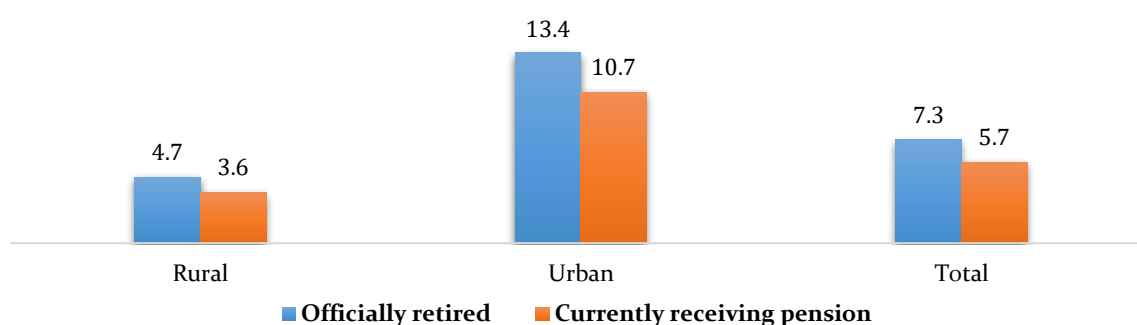


Twelve percent of the currently working older adults age 45 and above in India are engaged in side jobs, in addition to their main jobs. In states such as Manipur (31%), Odisha (27%), Tripura (27%), and Chhattisgarh (23%), more than one-fifth of the older adults age 45 and above are also engaged in a side job in addition to their main jobs.

Retirement and pension

In India, 7% of the elderly age 60 and above who have officially retired from the organised sector of employment. Only 6% of the officially retired elderly age 60 and above are currently receiving pension (Figure 16). The proportion of the elderly who are officially retired from the organised sector of employment is the highest in Chandigarh (28%), followed by Himachal Pradesh (23%), Uttarakhand (16%), and Lakshadweep (15%). This proportion is lowest in the state of Arunachal Pradesh (3%), followed by Karnataka (3%) and Telangana (5%). A similar state-wise pattern is observed for elderly age 60 and above who are currently receiving a pension.

Figure 16 Percentage of the elderly age 60 and above who officially retired from the organized sector of employment, and are currently receiving a pension by place of residence, India, LASI Wave 1, 2017-18



In India, about one-fifth (19%) of the elderly age 60 and above who are officially retired are currently receiving pension; an additional 3% are expected to receive it, and a large proportion (78%) are neither receiving nor expected to receive pension. More than half of the elderly age 60 and above (54%) with 10 or more years of schooling who are officially retired are receiving pensions, compared with just 4% of those with no schooling.

Social security coverage is significantly higher in smaller states and UTs where people are mostly engaged in full time jobs and in public sector units. The north, east and central Indian states have almost negligible social security coverage.

CHRONIC HEALTH CONDITIONS

The assessment of the burden of chronic health conditions such as cardiovascular diseases, diabetes, chronic respiratory diseases, bone diseases, and cancers, as well as their risk factors, are important for promoting appropriate and effective health care policies for the prevention and control of non-communicable diseases (NCDs). There is a lack of population-based estimates for India and states/UTs, and by socio-economic spectrum based on internationally comparable designs and tools. One of the main objectives of the LASI is to assess the prevalence rates of chronic health conditions of the older population of India and its states and by socio-economic spectrum. This section presents the self-reported prevalence of chronic health conditions and organ-related diseases among older adults age 45 and above in India and states/UTs.

Self-Rated Health (SRH)

Self-rated health captures the full range of illnesses a person has and the possible symptoms of diseases that are yet undiagnosed. Overall, in India, the prevalence of poor SRH is two times among the elderly age 60 and above (24%) than older adults age 45-59 (12%); elderly women, the elderly with no education and those who are not currently working, are more likely to report poor SRH. More than half of elderly age 60 and above reported poor SRH in the states of Kerala (53%) and Tamil Nadu (53%).

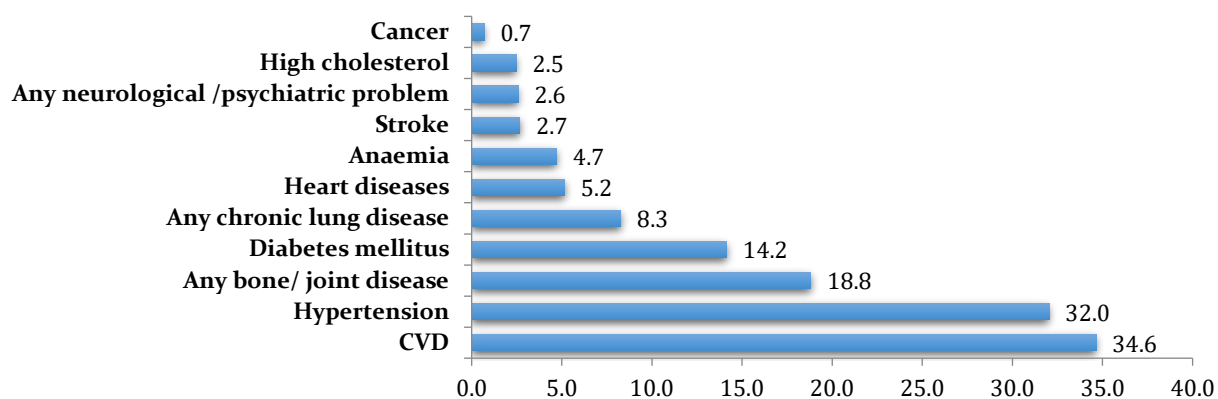
Chronic health conditions

Overall, in India the self-reported prevalence of diagnosed cardiovascular diseases (CVDs) is 28% among older adults age 45 and above. The prevalence of CVDs increases with age from 22% among those in age 45-59 to 34% among those in age 60-74, and further to 37% among those age 75 and above. More than a half of elderly age 60 and above in the states/UTs of Goa (60%), Kerala (57%), Chandigarh (55%), Andaman & Nicobar (51%), and Jammu & Kashmir (51%) reported that they have been diagnosed with CVDs. About a third (32%) of elderly age 60 and above have been diagnosed with hypertension, 5.2% were diagnosed with chronic heart disease and 2.7% with stroke. The self-reported prevalence of diagnosed CVDs is higher among the elderly residing in urban areas (50%), elderly women (38%), elderly residing with children and others (39%), those with 10 or more years of schooling (50%) and those in the richest MPCE quintile (45%).

In India, the self-reported prevalence of diabetes mellitus among older adults age 45-59 is 9% and among the elderly age 60 and above is 14% (Figure 17). A little less than a third (30%) of elderly age 60 and above with 10 or more years of schooling reported having been diagnosed with diabetes mellitus compared with 8% among the elderly with no education. More than a quarter of the elderly age 60 and above reported that they have been diagnosed with diabetes in the demographically advanced states/UTs of Kerala (35%), Puducherry (28%), Lakshadweep (28%), Goa (27%), Delhi (26%), Tamil Nadu (26%), and Chandigarh (25%).

Overall in India, the prevalence of asthma, bronchitis, and COPD is higher among elderly age 60 and above (5.9%, 1.6%, and 2.8%, respectively) than in older adults age 45-59 (3.1%, 0.7%, and 1.6%, respectively) Eight percent of elderly age 60 and above reported chronic lung diseases (Figure 17). Chronic lung diseases are more prevalent in the states/UTs of Rajasthan (15%), Puducherry (13%), Kerala (12%), West Bengal (11%) and Karnataka (10%).

Figure 17 Self-reported prevalence (%) of diagnosed chronic health conditions among the elderly age 60 and above, LASI Wave 1, 2017-18



Overall, the self-reported prevalence of diagnosed neurological/psychiatric problems among the elderly age 60 and above in India is 2.6% (Figure 17) and that of depression is 0.8%. The elderly living with others (1.3%) and divorced/deserted/separated (1%) are more likely to be diagnosed with depression. The prevalence of neurological or psychiatric problems among the elderly is more than 5% in the states/UTs of West Bengal (8.1%), Telangana (7%), Puducherry (6.9%), and Jammu & Kashmir (5.3%).

In India, the prevalence of any bone or joint disease is higher among elderly age 60 and above (19%) than in older adults age 45-59 (12%). Around a third of elderly reported bone/joint diseases in the states of Telangana (33%) and West Bengal (32%). In India, 0.7% of the elderly age 60 and above have been diagnosed with cancer (Figure 18), and the prevalence of cancer is higher in the states of Himachal Pradesh (2.9%), Kerala (1.8%), Gujarat (1.5%), Uttarakhand (1.4%) and Mizoram (1.4%).

Treatment rates for chronic health conditions

Overall in India, around three quarters of the elderly age 60 and above who were diagnosed with chronic conditions have been treated for hypertension (77%), chronic heart diseases (74%), diabetes mellitus (83%), chronic lung diseases (72%) and cancer (75%); more than half of elderly have been treated for stroke (58%) and bone/joint diseases (56%); whereas, the treatment rate for neurological & psychiatric diseases among the elderly is the lowest (41%). The treatment rate for all chronic health conditions is higher among the elderly in urban areas, those with higher education, and those in the richest MPCE quintile than their counterparts.

More than 90% of the elderly age 60 and above who reported that they have been diagnosed with hypertension are currently on treatment for hypertension in the states/UTs of Goa (97%), Andhra Pradesh (92%), Puducherry (92%) and Kerala (91%). The proportion of the elderly age 60 and above diagnosed with diabetes mellitus who are currently receiving treatment for diabetes mellitus ranges from 70-90% across states of India, except for Gujarat (69%), Assam (67%), Uttar Pradesh (67%), Mizoram (64%) and Arunachal Pradesh (36%).

The treatment rate for chronic lung diseases among the elderly age 60 and above ranges from 97% in Delhi to 10% in Arunachal Pradesh. Just about a quarter of the elderly age 60 and above are currently receiving treatment for neurological and psychiatric conditions in Mizoram (25%), West Bengal (29%), Andaman & Nicobar (21%) and Nagaland (3%). Overall, more than half of older adults age 45 and above are currently receiving treatment for cancer except for those in Assam where the treatment rate is only 25%.

Family medical history

Overall in India, around a quarter (23%) of older adults age 45 and above reported a family history of hypertension, 16% reported a family history of diabetes mellitus, 8% reported heart disease, and 6% reported a family history of stroke, cancer, and neurological/psychiatric disorders. A higher proportion of older adults age 45 and above in Kerala reported a family history of hypertension (55%), heart disease (21%) and diabetes mellitus (52%). A higher proportion of family members of older adults have been diagnosed with stroke in West Bengal (17%), neurological & psychiatric conditions in Bihar (10%), and cancer in Mizoram (20%).

Organ-related diseases

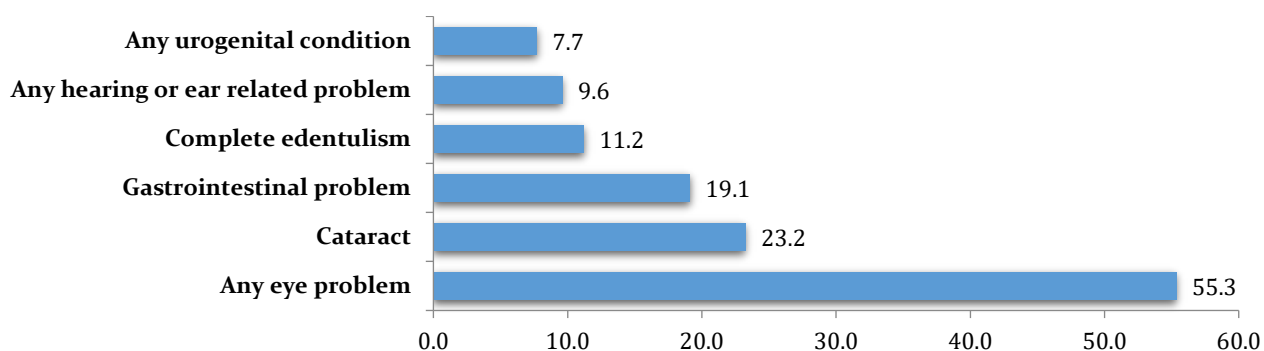
Ageing is also associated with a decrease in the functional capacity of different body organ systems as well as sensory systems. In the LASI, information was collected on chronic urogenital diseases or conditions, which include chronic renal failure, incontinence, kidney stones and benign prostatic hyperplasia (BPH) (men only). In India, the self-reported prevalence of urogenital conditions among older adults age 45-59 is 6% whereas among the elderly age 60 and above is 8% (Figure 18). The prevalence of incontinence is 4%, chronic renal failure is 0.8% among elderly age 60 and above.

The self-reported prevalence of urogenital conditions among the elderly age 60 and above is higher in the states of West Bengal (17%), Delhi (16%), Himachal Pradesh (12%) and Mizoram (12%).

Overall, more than half (55%) of the elderly age 60 and above in India reported any eye-related problems; more than a third (35%) have refractive errors, around a quarter (23%) of elderly have been diagnosed with cataract (Figure 19), and 2.5% have been diagnosed with glaucoma. The prevalence of cataract is higher among elderly women (25%) than among men (21%); higher in urban elderly (30%) than in rural elderly (21%); as well as among widowed (28%) and elderly living alone (28%). Among the elderly age 60 and above, more than two-fifths in Daman & Diu (44%) and Gujarat (44%), and more than a quarter in the states of Maharashtra (29%), Kerala (28%), Himachal Pradesh (27%), Uttarakhand (26%), Uttar Pradesh (26%) and Tamil Nadu (25%) have been diagnosed with cataract.

One-in-ten (10%) elderly age 60 and above in India reported ear or hearing-related problems and the prevalence is higher in Punjab (23%), Chandigarh (21%) and Karnataka (18%). Oral health conditions are important for healthy ageing and is a marker of overall health and wellbeing. One half (51%) of elderly age 60 and above have oral health problems and one in ten (11%) elderly age 60 and above have lost all-natural teeth (complete edentulism). One in every five elderly age 60 and above reported complete edentulism in the states of Himachal Pradesh (26%), Punjab (25%), Haryana (23%) and Gujarat (21%).

Figure 18 Self-reported prevalence (%) of diagnosed organ-related diseases among the elderly age 60 and above, LASI Wave 1, 2017-18



Age patterns in chronic health conditions and multi-morbidity

The age-associated rise in the prevalence of chronic health conditions is steady and consistent and more pronounced for cardiovascular and lung diseases (Figure 19). Multi-morbidity is defined as the simultaneous presence of two or more chronic health conditions in an individual. Ageing is associated with an increased risk of experiencing more than one chronic health condition at the same time.

In India, 26% of older adults age 45 and above reported that they have been diagnosed with single morbidity and 18% have been diagnosed with multi-morbidities. Around a quarter of the elderly age 60 and above have multi-morbidities (23%) compared with 13% among older adults age 45-59. Elderly living in urban areas (36%), with higher education (37%) and those in the richest MPCE quintile (35%) are more likely to be diagnosed with more than a single chronic health condition. The prevalence of multi-morbidity conditions among the elderly age 60 and above is much higher in the states/UTs of Kerala (52%), Chandigarh (41%), Lakshadweep (40%), Goa (39%) and Andaman & Nicobar Islands (38%). The prevalence of single morbidity and multi-morbidity conditions increases with age (Figure 20).

Figure 19 Self-reported prevalence (%) of diagnosed major chronic health conditions among older adults by age, India, LASI Wave 1, 2017-18

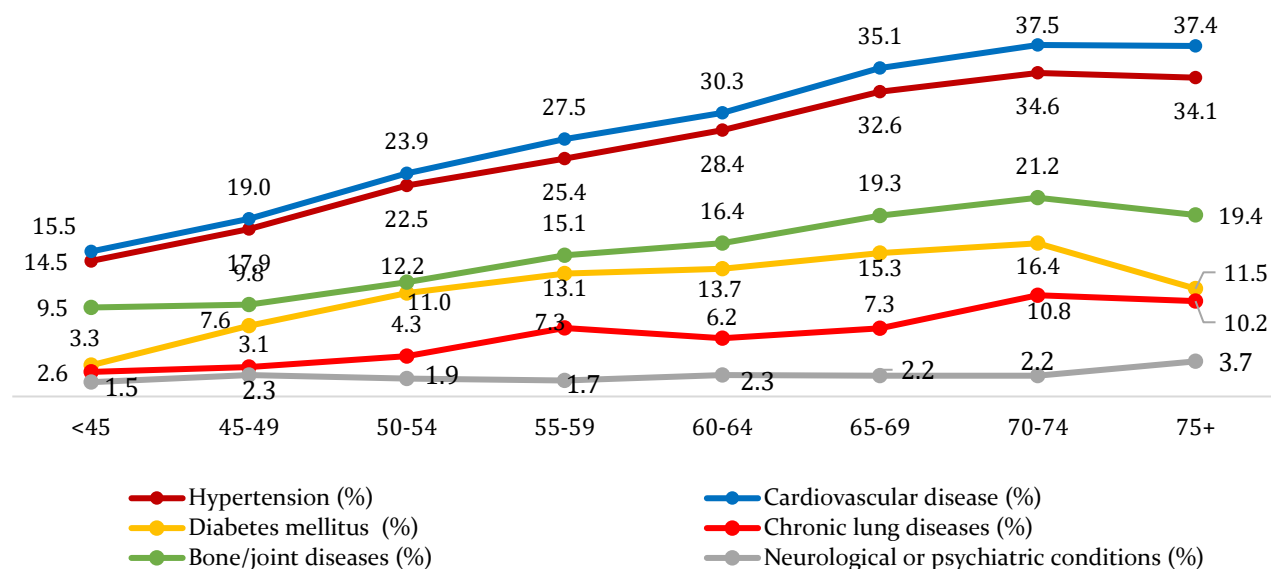
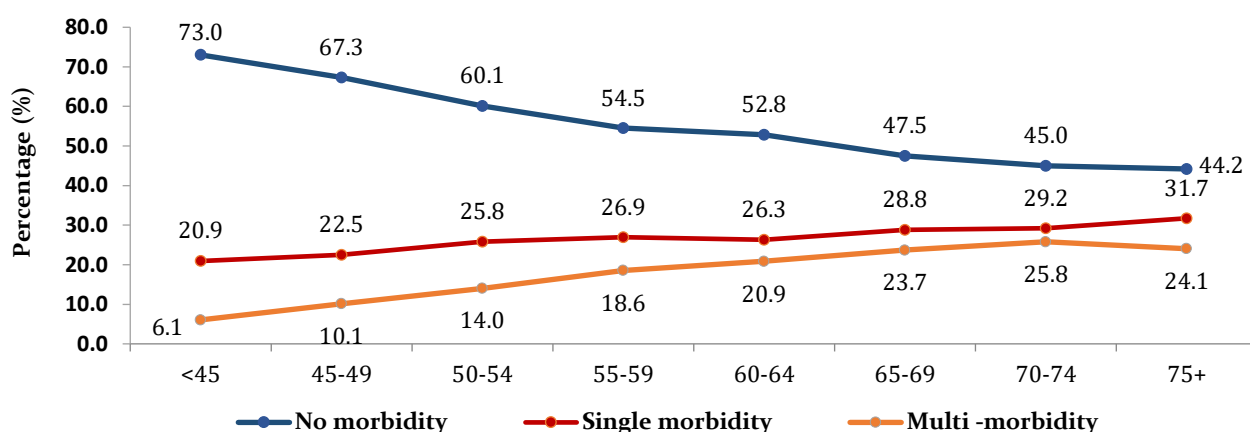


Figure 20 Multi-morbidity conditions (%) among older adults by age, India, Wave 1, 2017-18



SYMPTOMS, INJURIES, ENDEMIC DISEASES, AND WOMEN'S HEALTH

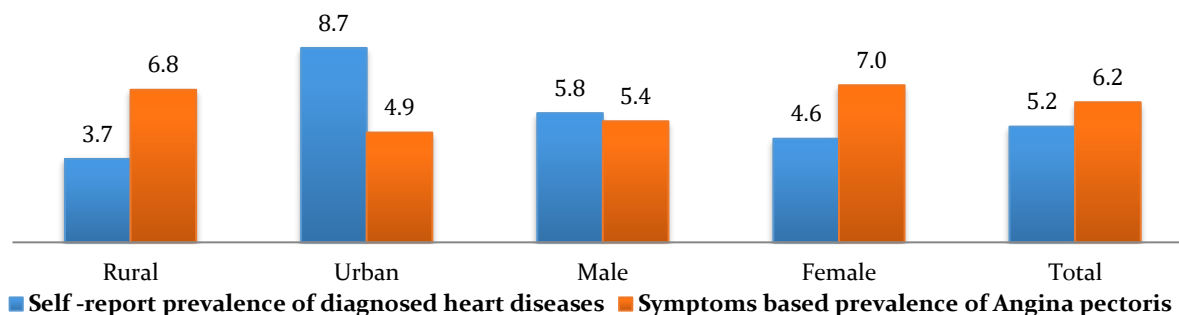
In India, on the one hand, the prevalence of NCDs is growing at a significant rate; on the other hand, the prevalence of infectious disease, common health conditions such as pain and sleep issues, injury, falls, and women's health problems are contributing significantly to the disease burden.

Angina pectoris

Angina pectoris, a risk factor for ischaemic heart disease (IHD), refers to chest pain or discomfort, which occurs when the area surrounding the heart muscles does not receive oxygen sufficiently. In the LASI, the World Health Organisation's Rose Angina Questionnaire was used for the symptom-based assessment of angina pectoris. Five percent of older adults age 45-59 and 6% of elderly age 60 and above in India have angina pectoris based on an algorithm. Among elderly 60 and above, the prevalence rate of angina is higher in rural (7%) than urban areas (5%), and among elderly women (7%) than among men (5%). The prevalence of angina among both older adults age 45-59 and elderly age 60 and above decreases as educational attainment increases.

More than one in ten elderly age 60 and above have symptomatic angina in the states/UTs of Himachal Pradesh (20%), Meghalaya (15%), Uttarakhand (13%), and Maharashtra (10%). The prevalence of angina is much higher than the prevalence of diagnosed heart disease among rural elderly and elderly women. In contrast, the diagnosed prevalence of heart disease is higher than symptom-based prevalence among urban elderly and elderly men (Figure 21). This pattern suggests that the burden of undiagnosed heart diseases in India is much higher among the rural elderly and elderly women.

Figure 21 Self-reported prevalence (%) of diagnosed heart disease and symptom-based prevalence (%) of angina pectoris among the elderly age 60 and above, LASI Wave 1, 2017-18



Sleep

Sleep problems are defined as the difficulty in falling or staying asleep or sleep that is non-restorative and which results in significant daytime impairment. In the LASI, the quality of sleep in the month prior to the interview was assessed based on a total of five domains: trouble falling asleep, waking up at night and having trouble getting back to sleep, waking too early in the morning and not being able to fall asleep, feeling unrested during the day, and taking a nap during the day. Eleven percent of older adults age 45-59 and 15% of elderly age 60 and above in India have sleep problems. Elderly in the rural (16%) than in urban areas (13%), and elderly women (16%) than men (14%), widowed (17%) and elderly living alone (19%) are more likely to experience sleep problems. Around a fifth of the elderly age 60 and above have sleep problems in the states/UTs of Madhya Pradesh (22%), Punjab (21%), Puducherry (21%), Kerala (20%), and Delhi (20%).

Pain

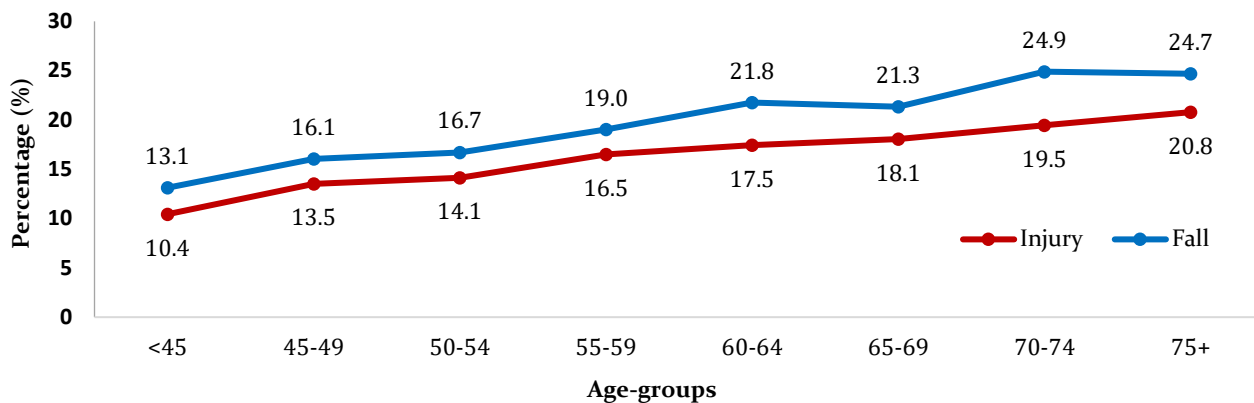
Pain was assessed if respondents reported that they were troubled by pain and they required some form of medication or treatment for the relief of pain. Twenty-nine percent of elderly age 60 and above and 23% of older adults age 45-59 reported having pain that required treatment. Among the elderly age 60 and above, the self-reported prevalence of pain is higher in rural areas (30%); among women (33%) than men (25%); and among those living alone (33%) than others (27%). Around half of the elderly age 60 and above in Puducherry (54%), Odisha (49%), and Jharkhand (47%) reported having trouble with pain that required medical treatment.

Injuries and falls

Older people have the highest risk of death or suffering a serious injury arising from a fall, and these risks further increase with age. A fall is defined as an event which results in a person coming to rest inadvertently on the ground or floor or other lower levels. In India, a quarter of elderly age 60 and above (25%) and 18% of older adults age 45-59 reported that they have either sustained any injury or had falls in the past two years preceding the survey. Among the elderly age 60 and above, the prevalence of falls (23%) is higher than that of injuries (19%).

More than 30% of the elderly age 60 and above in the states of Odisha (36%), Bihar (32%), Kerala (31%), Punjab (31%), and Assam (30%) reported any injury and/or fall. Among the elderly age 60 and above, the prevalence of falls is higher in Odisha (35%), Punjab (31%), Kerala (30%), Assam (29%), and Bihar (29%); whereas, a quarter of elderly age 60 and above reported injuries in Bihar (27%), Assam (25%), and West Bengal (25%).

Figure 22 Prevalence (%) of injury and/or fall among older adults by age, LASI Wave 1, 2017-18



Endemic disease

An endemic disease is one that is always present in a certain population or region. In the LASI, information was collected on endemic diseases in the 2 years prior to the survey. These endemic diseases include water-borne diseases (jaundice/ hepatitis, typhoid, diarrhoea/gastroenteritis), vector-borne diseases (malaria, dengue, and Chikungunya) and other infectious diseases (tuberculosis and urinary tract infection). More than a quarter of elderly age 60 and above reported at least one of these endemic diseases (27%); a fifth of the elderly reported water-borne diseases (20%); one in ten elderly reported vector-borne diseases (11%); and 3.5% have been diagnosed with other infectious diseases.

Older adults age 45 and above residing in rural areas, women, those living with a spouse and children, and those currently working are more prone to endemic disease. By caste, the prevalence of water-borne and vector-borne diseases is pronounced among the Scheduled tribe, indicating vulnerable environmental, water and sanitary conditions among tribal communities. The prevalence of any endemic disease among the elderly age 60 and above is higher in the states/UTs of Chhattisgarh (49%), Dadra & Nagar Haveli (49%), Rajasthan (48%), Haryana (46%), Madhya Pradesh (44%), and Mizoram (42%).

Women's health

All LASI female participants age 45-59 were asked about their reproductive health conditions, including menstrual, menopausal, or gynaecological health concerns in the past 12 months. In India, about 16% of older adult women age 45-59 reported having at least one reproductive health problem including hot flashes, irregular vaginal discharge, genital prolapse, fibroids, cysts, and vaginal dryness. Older adult women age 45-59 residing in rural areas (17%), currently married women (17%) and those living with spouse and children (17%) have higher prevalence of any reproductive health problem than their respective counterparts. Half of the older adult women age 45-59 from Mizoram (52%) and one third of women in Himachal Pradesh (32%) reported having any reproductive health problem.

Overall, 11% of older adult women age 45 and above in India reported having undergone hysterectomy. In Daman & Diu (24%), Andhra Pradesh (23%), and Punjab (21%), at least one in every five older adult women age 45 and above reported having undergone hysterectomy.

Overall, 2% of older adult women age 45 and above in India reported having undergone pap smear tests for cervical cancer screening and 1.6% have undergone mammography for breast cancer screening. A higher proportion of older adult women age 45 and above have undergone pap smear test in Mizoram (8%), Karnataka (7%), and Kerala (5%); whereas, higher proportion of older adult women age 45 and above have undergone mammography in the demographically advanced states/UT such as Karnataka (3.9%), Chandigarh (3.6%), and Kerala (3.6%).

DIRECT HEALTH EXAMINATIONS: BIOMARKERS

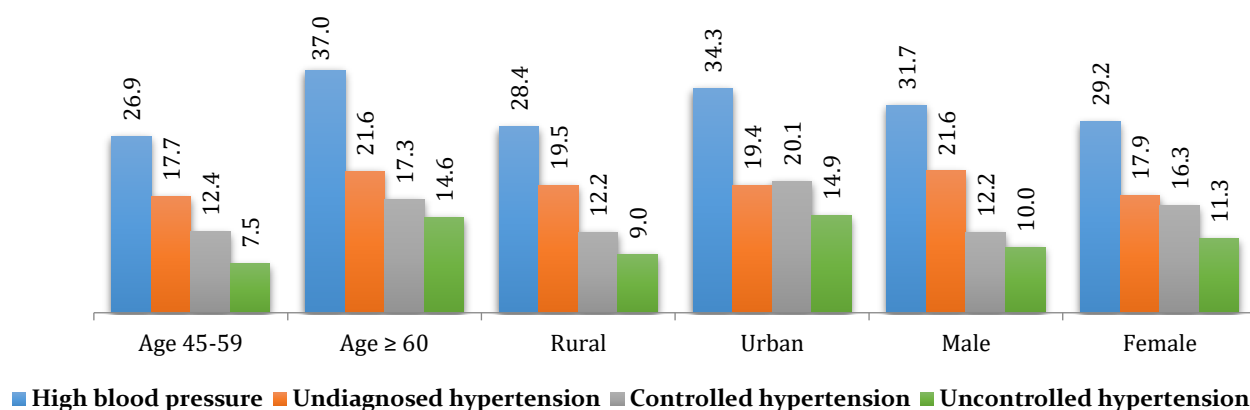
The inclusion of biomarkers is an important innovation in the LASI, which is particularly important for India due to the low education levels, and limited awareness and access to health care services; studies have reported lower prevalence rates of self-reported diseases and inadequate diseases diagnosis. Biomarker data allows for a more accurate assessment of the chronic disease burden than does self-reported health data. In the LASI, the biomarkers, based on direct health examinations, provide the prevalence of chronic health conditions including hypertension, visual impairment, overweight/obesity or under-nutrition, and chronic respiratory diseases.

High blood pressure

Blood pressure was measured using an Omron HEM 7121 B.P. monitor, following internationally comparable protocols. In India, 30% of older adults age 45 and above have high blood pressure (measured). The prevalence of high blood pressure is higher among the elderly age 60 and above (37%) than among older adults age 45-59 (25%). Among the elderly age 60 and above, the prevalence of high blood pressure is higher in urban (40%) than in rural areas (35%), and among women (38%) than among men (34%). More than half of the elderly age 60 and above have high blood pressure in the states/UTs of Lakshadweep (65%), Nagaland (62%), Andaman & Nicobar (53%), and Meghalaya (52%).

Overall in India, 20% of older adults age 45 and above compared to elderly age 60 and above (22%) remain undiagnosed for hypertension. The prevalence rate of undiagnosed hypertension among the elderly age 60 and above is higher in rural (23%) than in urban areas (19%), elderly living alone (25%) than those living with spouse and children (21%), Scheduled tribe (29%) than other caste (20%), those with no schooling (23%) than those with more than 10 years of schooling (18%), and those in the poorest MPCE quintile (25%) than those in the richest MPCE quintile (19%). More than a quarter of the elderly age 60 and above have undiagnosed hypertension in states/UTs of Nagaland (50%), Chhattisgarh (33%), Lakshadweep (33%), Meghalaya (31%), Jharkhand (28%), Arunachal Pradesh (28%), Dadra & Nagar Haveli (26%), Uttarakhand (26%), and Himachal Pradesh (26%).

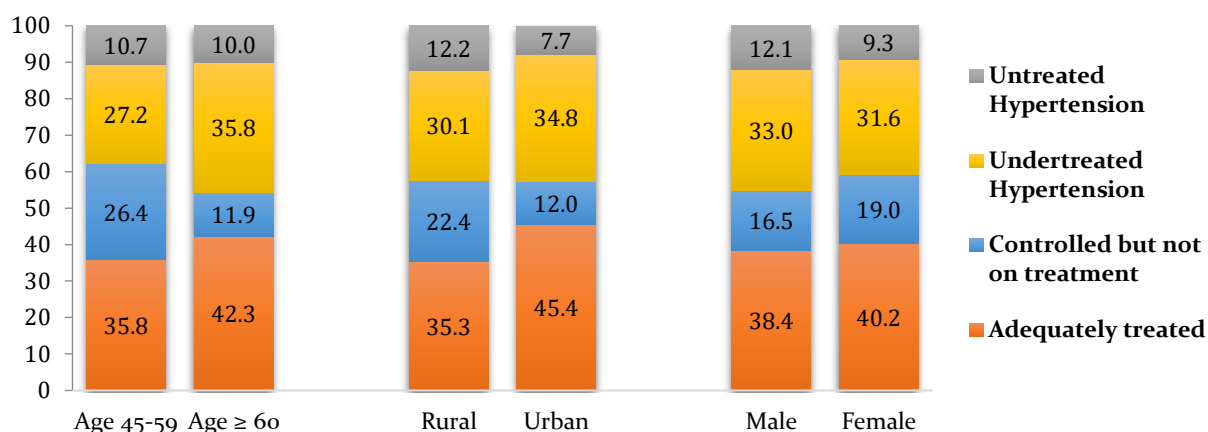
Figure 23 Prevalence (%) of high blood pressure, undiagnosed hypertension, controlled and uncontrolled hypertension among older adults age 45 and above by age, place of residence, and sex, LASI Wave 1, 2017-18



Overall, in India, 17% of the elderly age 60 and above who reported that they have been diagnosed with hypertension, currently have normal blood pressure (controlled) whereas, 15% of the elderly age 60 and above who reported that they have been diagnosed with hypertension, currently have high blood pressure (uncontrolled). More than a quarter of elderly age 60 and above who reported that they have been diagnosed with hypertension, currently have normal blood pressure (controlled) in the states/UTs of Chandigarh (34%), Goa (33%), Puducherry (28%) and Haryana (25%).

Among the elderly age 60 and above who reported that they have been diagnosed with hypertension, 42% are adequately treated for hypertension; however, more than a third of elderly are undertreated for hypertension (36%) and one in ten (10%) elderly remain untreated for hypertension (Figure 24). The elderly residing in rural areas (13%), elderly men (12%), those belonging to Scheduled tribe (17%) and elderly with no education (12%) or in the poorest MPCE quintile (15%) are more likely to remain untreated for hypertension.

Figure 24 Percent distribution of older adults with untreated, undertreated, adequately treated hypertension and controlled hypertension but not on treatment by age, place of residence, and sex, LASI Wave 1, 2017-18



More than a fifth of elderly age 60 and above who reported that they have been diagnosed with hypertension remain untreated in the states/UTs of Arunachal Pradesh (26%), Mizoram (25%), Nagaland (25%), and Himachal Pradesh (22%); however, more than half of elderly age 60 and above who reported that they have been diagnosed with hypertension are adequately treated for hypertension in the states/UTs of Puducherry (61%), Chandigarh (60%), Goa (55%), Maharashtra (55%), Karnataka (52%), and Telangana (50%).

Lung function

Age is closely associated with the decline in respiratory health, as the respiratory system undergoes various anatomical, physiological, and immunological changes with older age. In the LASI, lung function test (also called pulmonary function test) was conducted using a handheld device called ‘Thor’ spirometer, which measures the amount of air that the lungs can hold, to check how the lungs functions and to screen for diseases that affect the airways, such as COPD. It may be noted that LASI is the first nation-wide population based survey which conducted spirometry in a field setting.

In India, almost half (49%) of older adults age 45 and above have either restrictive or obstructive lung disease, revealing the poor respiratory health of older adults. Nearly two in five (40%) older adults age 45 and above have restrictive lung disease while 9% have obstructive lung disease, including 4% with mild obstructive lung disease and 5% moderate-severe obstructive lung disease.

The prevalence of restrictive lung disease is 40% among older adults 45 and above (Figure 25). The prevalence of mild obstructive lung disease is marginally higher among older adults age 45-59 than among elderly age 60 and above (Figure 26). The prevalence of restrictive lung disease is higher in

urban than in rural areas; conversely the prevalence of obstructive lung disease (mild and moderate-severe) is slightly higher in rural than in urban areas. The prevalence of restrictive lung disease among elderly age 60 and above is higher in the states/UTs of Goa (55%), Lakshadweep (55%), Meghalaya (53%), Rajasthan (51%), Karnataka (50%), Andhra Pradesh (48%), Daman & Diu (48%), Kerala (48%), Odisha (48%), Jharkhand (47%), Maharashtra (46%), Telangana (46%), Haryana (45%), and Chhattisgarh (45%). The prevalence of moderate-severe obstructive lung disease among elderly age 60 and above is markedly higher in the states/UTs of Puducherry (27%), Himachal Pradesh (10%), and Kerala (10%).

Figure 25 Prevalence (%) of restrictive lung disease among older adults by age, place of residence, and sex, India, LASI Wave 1, 2017-18

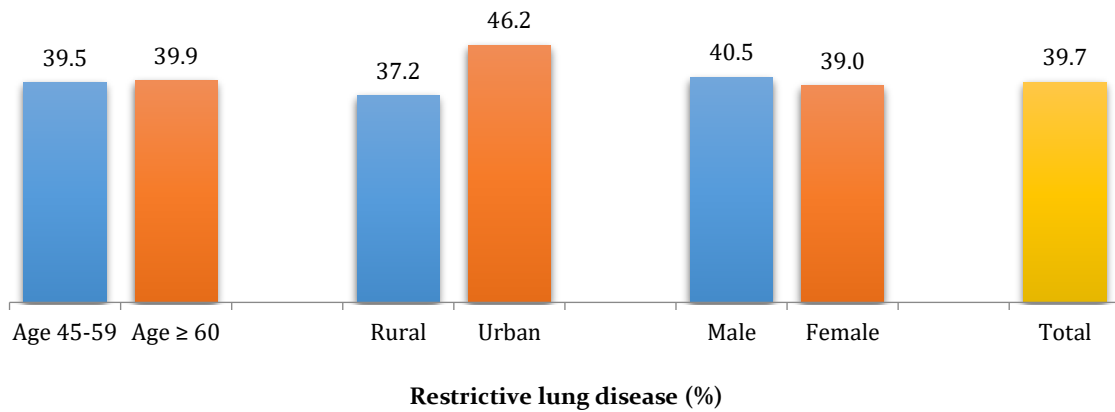
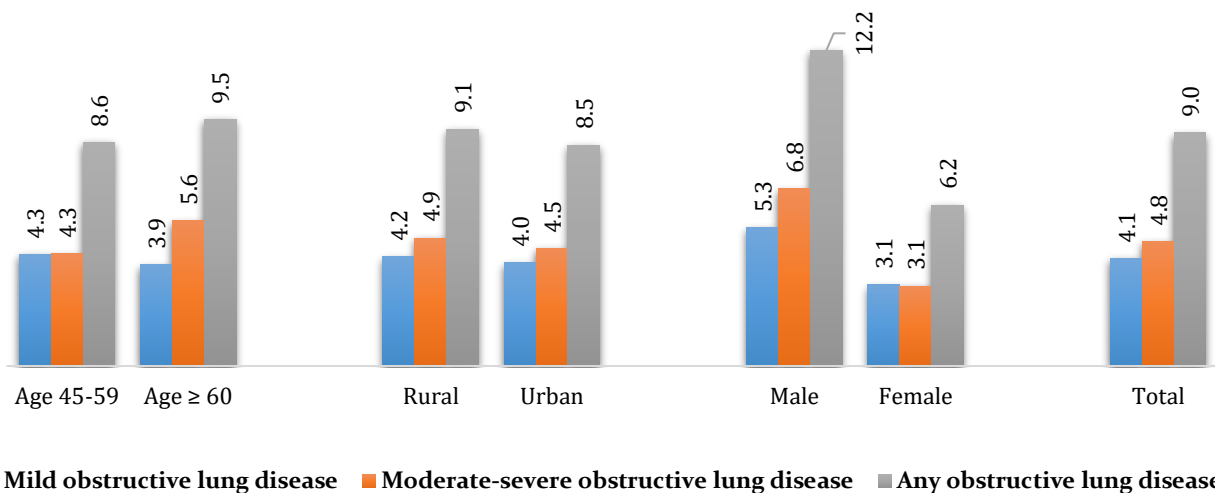


Figure 26 Prevalence (%) of obstructive lung disease among older adults by age, place of residence, and sex, India, LASI Wave 1, 2017-18



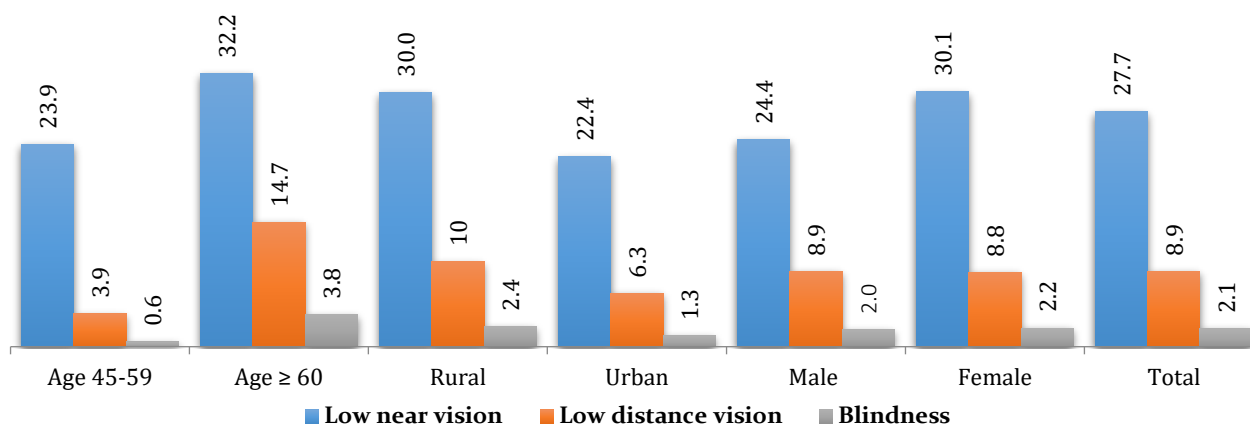
Visual impairment

In the LASI, for all consenting survey respondents, both near and distance vision was measured for both eyes with the best correction available using the CAPI-based tumbling E log MAR chart. Near vision was measured at 40 cm while distance vision was measured at 3 m.

Overall in India, 31% of older adults age 45 and above have either low near or low distance vision (measured). More than a third of elderly age 60 and above (37%) in India have low vision compared to 26% of older adults age 45-59. The prevalence of low visual acuity among the elderly age 60 and above decreases with educational attainment and household MPCE quintile.

A higher proportion of elderly age 60 and above with no education (43%) and those in the poorest MPCE quintile (40%) have low visual acuity compared to the elderly with 10 or more years of schooling (21%) and those in the richest quintile (34%), suggesting better access to health care and better correction of vision among the latter groups. The prevalence of low vision (low near or low distance) among the elderly age 60 and above is comparatively higher in the states of Arunachal Pradesh (66%), Meghalaya (65%), Tripura (50%), and Delhi (49%).

Figure 27 Prevalence (%) of low near vision, low distance vision and blindness among older adults age 45 and above by age, place of residence, and sex, LASI Wave 1, 2017-18



More than a quarter (28%) of older adults age 45 and above have low near vision and 9% have low distance vision. The prevalence of low near and low distance vision among the elderly age 60 and above is 32% and 15%, respectively. Among the elderly age 60 and above, the prevalence of low vision is higher among divorced/deserted/separated (44%), those living with others only (43%), and Scheduled caste (42%); the prevalence rate of low near and low distance vision decreases with increase in education level.

The prevalence of low near visual acuity among the elderly age 60 and above is much higher in the states of Meghalaya (60%), Arunachal Pradesh (58%), Delhi (47%), Tripura (45%), and Assam (44%). More than one in five elderly age 60 and above have low distance vision in the states/UTs of Arunachal Pradesh (38%), Dadra & Nagar Haveli (24%), Assam (22%), Daman & Diu (22%), Tripura (22%), and Telangana (21%).

Blindness

The prevalence of blindness among older adults age 45 and above in India is 2.1%. The prevalence of blindness among the elderly age 60 and above is more than six times (3.8%) than among older adults age 45-59 (0.6%). Among the elderly age 60 and above, the prevalence of blindness is higher among the widowed (5.9%) than the currently married (2.6%); those living with others (7.4%) than those living with spouse (2.4%); among those with no schooling (5%) than those with 10 or more years of schooling (1.3%) and; among those in the poorest MPCE quintile (5%) than those in the richest MPCE quintile (3%). Across the states, the prevalence of blindness among the elderly age 60 and above is more than 5% in the states of Uttar Pradesh (5.9%), Rajasthan (5.7%) and Haryana (5%).

Nutritional status and metabolic risk

Anthropometric measurements were conducted for the height, weight, waist circumference, and hip circumference of all LASI participants. In India, more than a quarter (27%) of elderly age 60 and above are underweight and a fifth (22%) of elderly are overweight/obese; indicating the dual burden of undernutrition as well as over nutrition among the elderly. The prevalence of obesity is higher among older adults age 45-59 (9%) than is among the elderly age 60 and above (6%) in India. (Figure 28). The prevalence of underweight among the elderly age 60 and above is almost threefold (32%) higher in rural areas than in urban areas (12%). Underweight is more common among the elderly belonging to Scheduled tribe (41%), those with no schooling (33%), and those in the poorest MPCE quintile (35%). In contrast, the prevalence of overweight and obesity is more common among elderly in urban areas (27% and 12% respectively), among women (18% and 8% respectively), those who never worked (22% and 10% respectively), those with 10 or more years of schooling (29% and 12% respectively), and those in the richest MPCE quintile (22% and 10% respectively).

The prevalence of obesity among the elderly age 60 and above is higher in the states/UTs of Chandigarh (22%), Delhi (18%), Puducherry (15%) and Daman & Diu (15%); in contrast, more than a third of elderly age 60 and above are underweight in the states/UTs of Dadra & Nagar Haveli (40%), Odisha (37%), Tripura (37%), Uttar Pradesh (37%), Chhattisgarh (36%), Madhya Pradesh (35%), and Assam (34%). The prevalence of high-risk waist circumference is much higher for older adult women (39%) than men (9%) age 45 and above; whereas, the prevalence of high-risk waist-to-hip ratio (WHR) is equally higher for both older adult men and women age 45 and above.

Figure 28 Percent distribution of older adults with normal body mass index (BMI), underweight, overweight and obesity by age, place of residence, and sex, LASI Wave 1, 2017-18

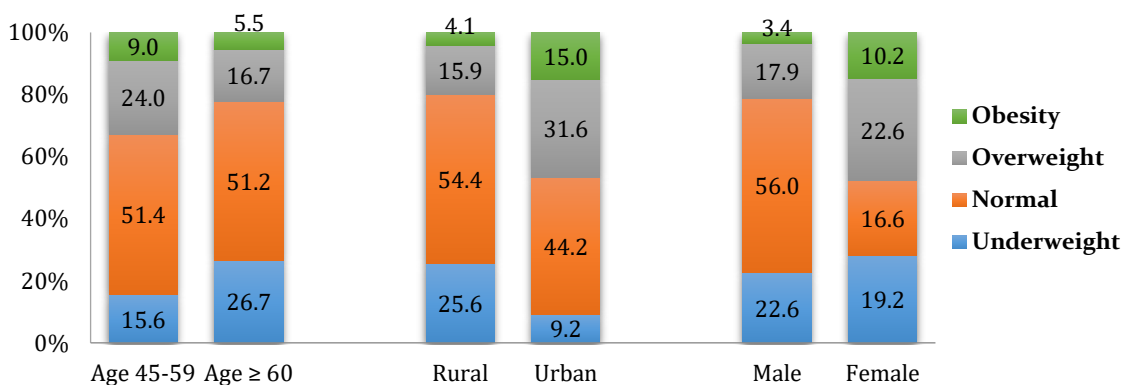
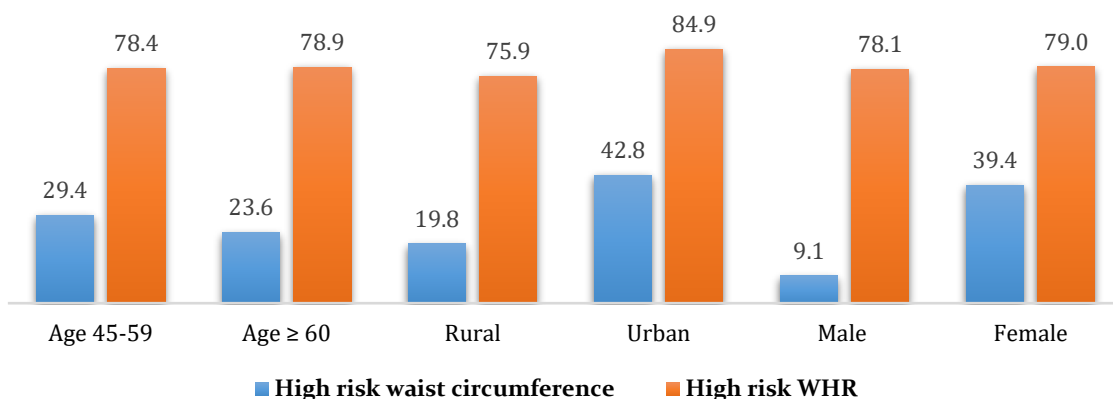


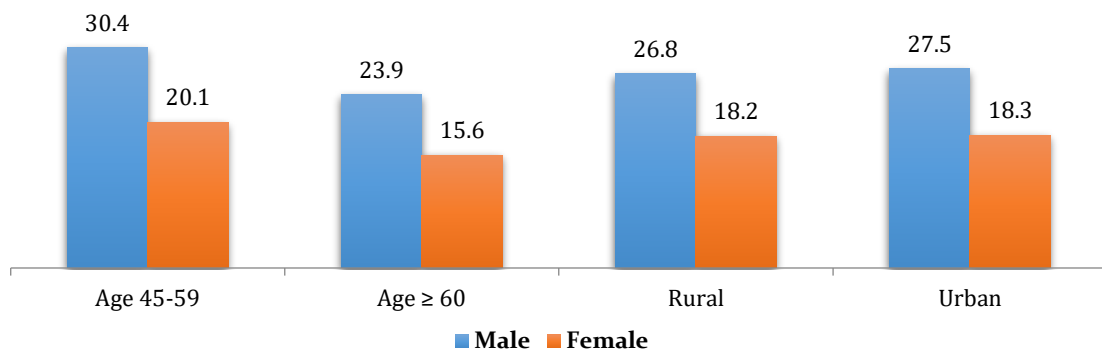
Figure 29 Prevalence (%) of high-risk waist circumference and high-risk waist-to-hip ratio (WHR) among older adults by age, place of residence, and sex, LASI Wave 1, 2017-18



Grip strength

Grip strength measures the muscle mass and upper body strength and it is an important biomarker of health and ageing. In the LASI, grip strength was measured in kilograms using a Smedley's Hand Dynamometer. The mean grip strength in the dominant hand among older adult men and women age 45 and above in India is 27.0 kg and 18.2 kg, respectively. The mean grip strength is lower among the elderly age 60 and above compared to older adults age 45-59 (Figure 30). Mean grip strength among the elderly men age 60 and above is higher in the states/UTs of Uttarakhand, Himachal Pradesh, Andaman & Nicobar Islands, Assam, Haryana, and Jammu & Kashmir; whereas, the mean grip strength is higher among elderly women in the states/UTs of Andaman & Nicobar Islands, Chandigarh, Uttarakhand, Arunachal Pradesh, and Haryana.

Figure 30 Mean grip strength in the dominant hand among older adult men and women by age and place of residence, LASI Wave 1, 2017-18



Balance and gait speed

In the LASI, the mid-level balance test (semi-tandem) was conducted first, with progressive testing of either the full tandem or the side by side stance depending on the semi-tandem test performance. Around 4% of older adults age 45 and above failed to maintain the semi-tandem stance. Among older adults age 45 and above who performed the side by side balance test, 12% failed to maintain an even side by side position for 10 seconds.

Walking speed (also known as gait speed) is predictive of overall health, level of disability, future use of health care, and mortality among older people. The elderly age 60 and above in India have taken an average of 6 seconds to complete a 4m walk. The elderly age 60 and above from Kerala (7.0 seconds) and Delhi (7.2 seconds) have taken an average of 7 seconds to complete a 4m walk whereas, in all other states/UTs, the time taken for a walk is between 5 and 6 seconds.

Age pattern in biomarkers

The prevalence of chronic health conditions: high blood pressure, low vision, and underweight show a steady rise with advancing age whereas, the prevalence of obesity and mean grip strength in the dominant hand decline with age (Figures 31 & 32). Overall, biological markers provide strong evidence of age-associated rise in the health risks of older adults and the elderly in particular in India.

Figure 31 Biological markers of health: Age pattern in the prevalence (%) of high blood pressure, low vision, underweight, and obesity among older adults by age, India, LASI Wave 1, 2017-18

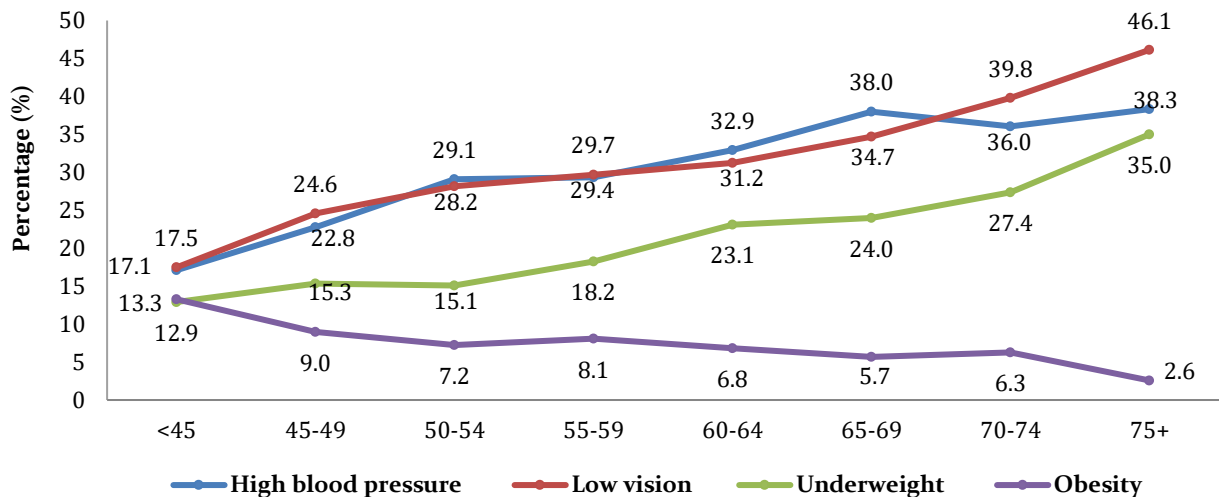
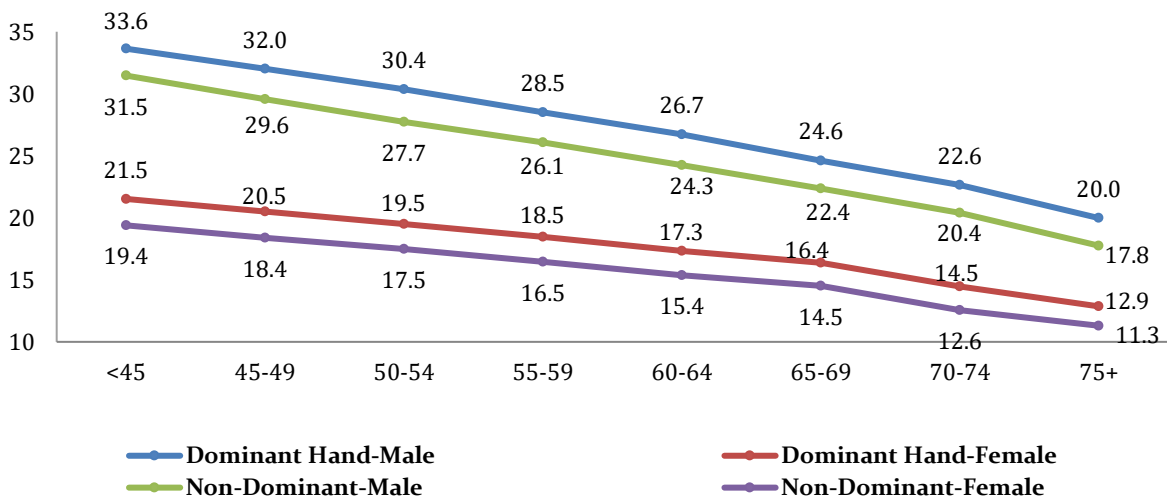


Figure 32 Biological markers of health: Age pattern in the mean grip strength in the dominant and non-dominant hand of older adult men and women by age, India, LASI Wave 1, 2017-18



MENTAL HEALTH: COGNITION AND DEPRESSION

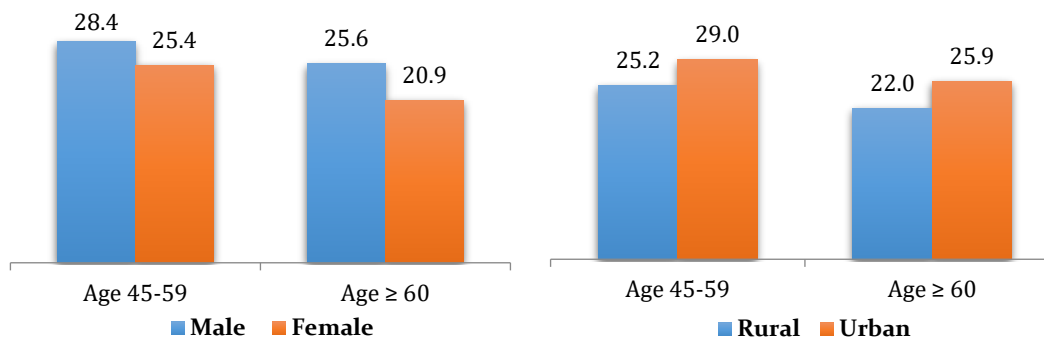
Mental health is an integral part of the health and well-being of older adults. Along with physical decline, decline in cognitive functioning is a hallmark of ageing, and a predictor of mortality. Understanding the cognitive ability of the middle age and older adults in India will be beneficial in the context of population ageing in India. Depression, an important component of mental health is also a leading cause of disability, dementia and mortality.

Cognition

In the LASI, participant’s cognitive abilities were assessed on five cognitive domains. The range for each domain score of cognition is: Memory 0-20, Orientation 0-8, Arithmetic function 0-9, Executive function 0-4, and Object Naming 0-2. A summary composite cognitive score was generated by combining the scores from all five cognitive domains, which range from 0 to 43, with higher scores indicating better cognitive ability. The mean score for each cognitive domain: memory, orientation, arithmetic and executive function and fluid intelligence decreases with advancing age.

In India, the mean composite cognition score among older adults age 45 and above is 25, with 10% in the lowest 10th percentile of the composite cognition score. A higher percentage of the elderly age 60 and above (15%) than older adults age 45-59 (6%) are in the lowest 10th percentile of composite cognition score. Sex differences in the cognitive score are more pronounced among the elderly age 60 and above; 7% of elderly men age 60 and above are found in the lowest 10th percentile of composite cognition scores compared with 22% of elderly women age 60 and above.

Figure 33 Composite cognition score among older adults age 45 and above by sex and place of residence, India, LASI Wave 1, 2017-18



In India, the cognitive ability scores of the elderly age 60 and above are closely related to educational attainment across all ages. Age-associated decline in cognitive ability score is consistent across states and socioeconomic spectrum. The mean composite cognition score decreases with lower levels of education and with advancing age, and this decrease is more pronounced in elderly age 75 and above. The mean composite cognition score declines from 30.9 for those with 10 or more years of schooling to 19.5 for those elderly with no education. The age-associated decline in cognitive ability score is consistent across states/UTs and socio-economic spectrum. In all cognitive domains as well as in the composite cognitive score, older adults age 45-59 and elderly age 60 and above with higher educational attainment have higher cognitive abilities in the states/UTs of Chandigarh, Puducherry, Kerala, Tamil Nadu, Mizoram and Delhi.

Depression

In the LASI, two internationally validated and comparable tools are used to assess depressive symptoms and episodes: The Centre for Epidemiologic Studies Depression (CES-D) scale was used to identify the presence of depressive symptoms (Radloff, 1977); and the Composite International Diagnostic Interview-Short Form (CIDI-SF) scale, a structured interview scale, was used for diagnosing probable major depression. The overall proportion of older adults in India age 45 and older who screened positive for depressive symptoms based on the CES-D scale is 28%; 30% of the elderly age 60 and above have depressive symptoms, compared to 26% of older adults age 45-59.

The prevalence of probable major depression (based on CIDI-SF) among older adults age 45 and above in India is 8%. The prevalence of probable major depression among the elderly age 60 and above (8.3%) is ten times higher than the self-reported prevalence of diagnosed depression (0.8%), suggesting a markedly higher burden of undiagnosed depression. The comparison of CES-D and CIDI-SF outcomes suggest that in India, close to a third of elderly age 60 and above have had depressive symptoms, whereas one in every twelve elderly age 60 and above have had probable major depression.

Among the elderly age 60 and above, the prevalence of probable major depression is higher among women (9%) than men (7%), and those in rural (9%) than those in urban areas (6%), among the widowed (10%), those living alone (13%), Scheduled caste (10%), and those who worked in the past but are not currently working (10%).

By education, the prevalence of probable major depression among the elderly age 60 and above declines sharply with educational attainment ranging from 9% of those with less than primary education to 5% of those with 10 or more years of schooling; but the prevalence rate does not vary much by MPCE quintiles. More than one in ten of the elderly age 60 and above have probable major depression in Madhya Pradesh (17%), Uttar Pradesh (14%), Delhi (11%), Bihar (10%), and Goa (10%).

Figure 34 Prevalence (%) of probable major depression based on CIDI-SF among older adults by age in India, LASI Wave 1, 2017-18

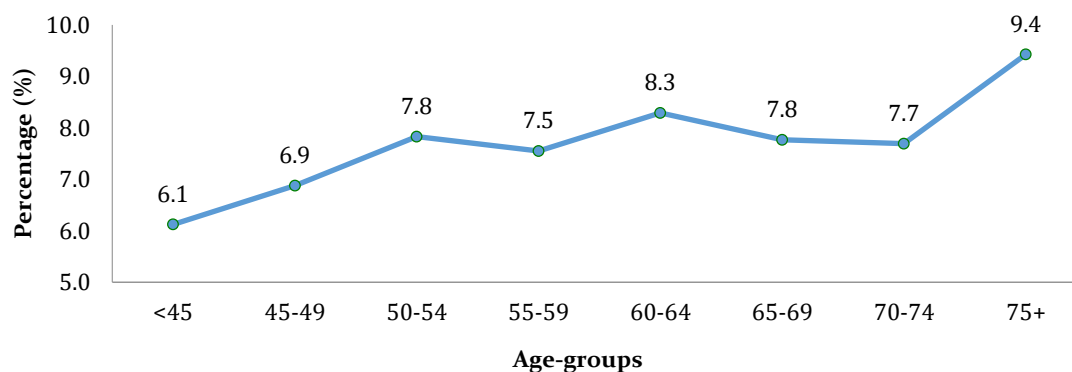
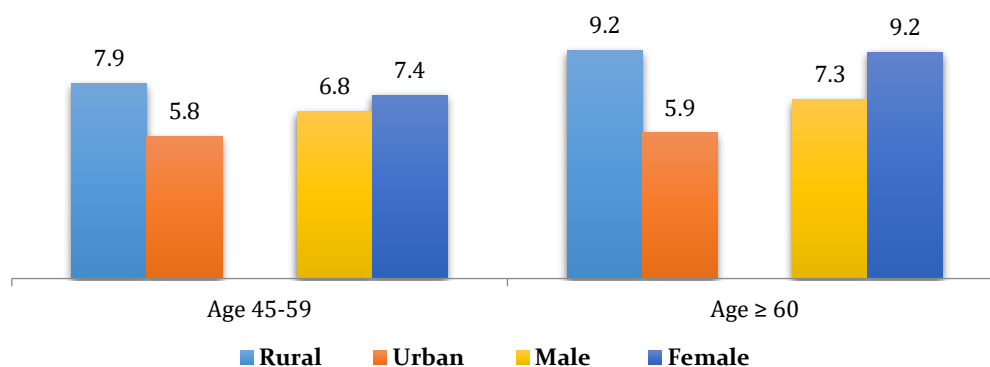


Figure 35 Prevalence (%) of probable major depression based on CIDI-SF among older adults age 45-59 and elderly age 60 and above by place of residence and sex in India, LASI Wave 1, 2017-18



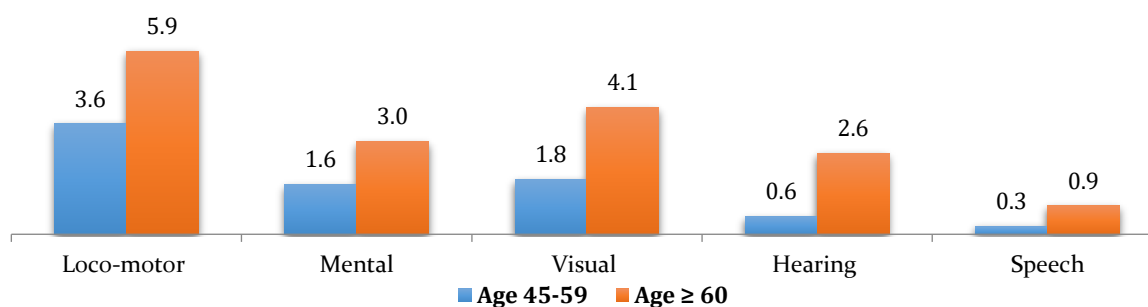
FUNCTIONAL HEALTH: FUNCTIONAL LIMITATIONS AND HELPERS

Healthy ageing is the process of developing and maintaining functional ability that enables well-being in older age. Functional health measurement provides valid, reliable, and comparable data on level of functioning and disability. A person's level of functioning is a dynamic interaction between health conditions, environmental factors, and personal factors. Functioning includes body function, body structures, activities and participation, whereas, disability is an umbrella term for impairments, activity limitations and participation restrictions. Assessing functional health is a key objective of the LASI and this section presents the prevalence rates of physical or mental impairment, mobility restrictions, work limiting health conditions, Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADL), and the use of aids /supportive devices and helpers.

Physical and mental impairments

Overall, in India about 11% of the elderly age 60 and above reported having at least one form of impairment (locomotor, mental, visual and hearing impairment) compared with 6% among older adults age 45-59. Among the elderly age 60 and above, locomotor (5.9%) is the leading impairment followed by visual impairment (4.1%) and mental impairment (3%) (Figure 36). Impairment rates are especially higher among the elderly in rural areas, the elderly with less than primary education and elderly living alone or divorced/deserted or separated. The prevalence of visual and hearing impairment is higher among the elderly age 60 and above residing in rural areas than in urban areas. More than 15% of the elderly age 60 and above reported having at least one form of impairment in the states/UTs of Karnataka (27%), Dadra & Nagar Haveli (23%), Odisha (19%), and Tamil Nadu (18%).

Figure 36 Percentage of older adults age 45-59 and the elderly age 60 and above by type of impairment, LASI Wave 1, 2017-18



Mobility restrictions

Mobility refers to the physical ability to move, which is necessary for performing day-to-day activities, making use of neighbourhood facilities, and participating in meaningful social, cultural, and physical activities. A higher proportion of elderly age 60 and above experienced difficulty in stooping, kneeling, or crouching (58%), followed by difficulty in climbing upstairs without resting (57%) and pulling/pushing large objects (53%). Picking up a coin is the least experienced mobility restriction (10%) among the elderly.

Work-limiting health conditions

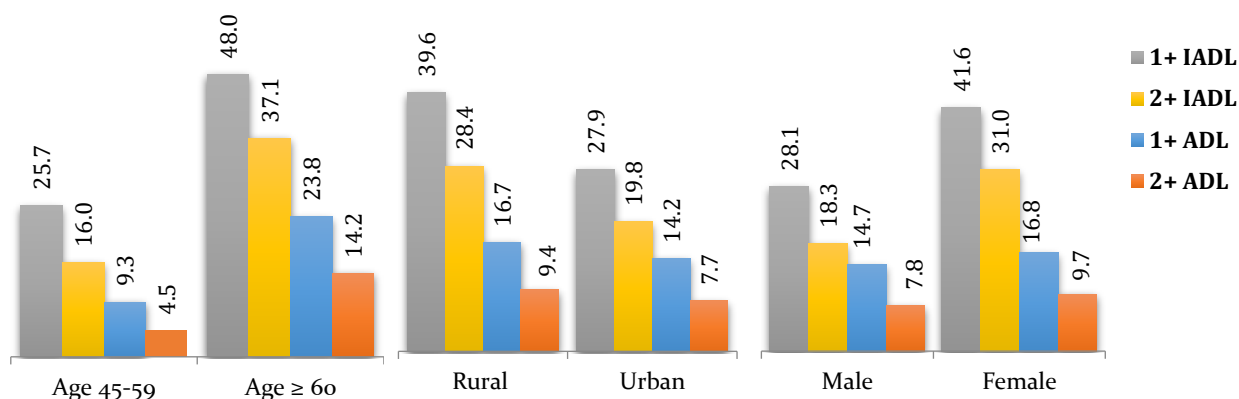
More than a quarter of the elderly age 60 and above (29%) who are either currently working or had worked in the past but were currently not working reported work-limiting health conditions. Among the elderly age 60 and above, women (31%), those living alone (34%) and former workers (53%) are more likely to have work limiting health conditions. More than two-fifths of the elderly age 60 and above who are either currently working or had worked in the past but were currently not working reported having work-limiting health conditions in the states/UTs of Gujarat (59%), Maharashtra (43%), Karnataka (42%) and Chandigarh (39%).

Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADL)

Activities of Daily Living (ADL) is a term used to refer to the normal daily self-care activities, such as movement in bed, changing position from sitting to standing, feeding, bathing, dressing, grooming, personal hygiene etc. Whereas, Instrumental Activities of Daily Living (IADL) allow an individual to live independently in a community, and they determine the level of independence and the need for supervision or assistance, on a day-to-day basis. The elderly who perform their ADL on their own have a higher level of independence and overall wellbeing.

A quarter (24%) of the elderly age 60 and above reported having at least one ADL limitation; 14% reported having two or more ADL limitations (Figure 37). Close to half (48%) of elderly age 60 and above reported having at least one IADL limitation and more than a third (37%) of the elderly reported having two or more IADL limitations (Figure 37). Older adults age 45-59 as well as the elderly age 60 and above residing in rural areas, elderly women, widowed, those living alone or with others and those who worked in the past but are currently not working, are more likely to have ADL and IADL limitations.

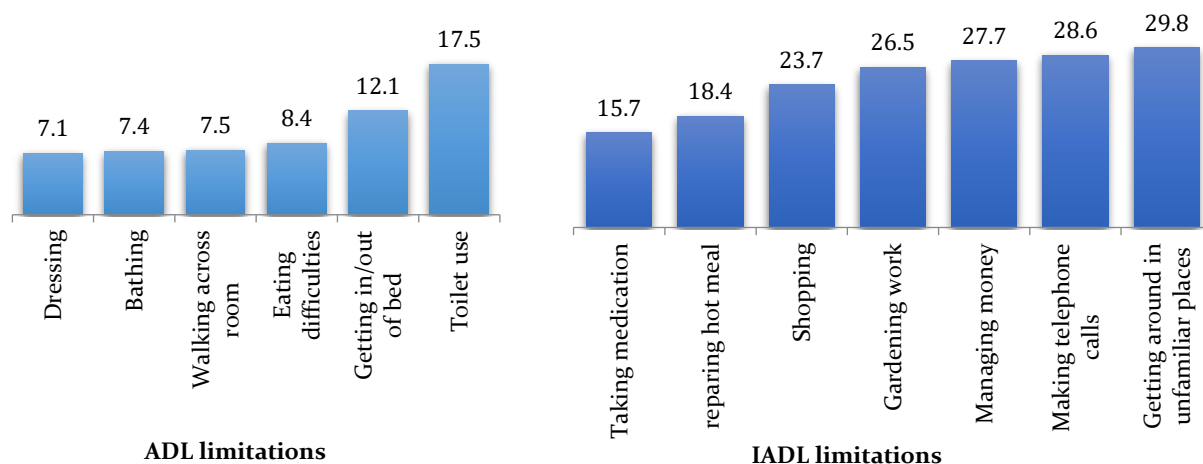
Figure 37 Percentage of older adults with Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) limitations by age, place of residence and sex, LASI Wave 1, 2017-18



Difficulty in using the toilet facility is the most common ADL limitation faced by the elderly age 60 and above; whereas, among IADL limitations, getting around in unfamiliar places is the most common difficulty reported by the elderly (Figure 38). More than a fifth of elderly age 60 and above have two or more ADL limitations in West Bengal (27%) and Maharashtra (23%); whereas, half of elderly reported having two or more IADL limitations in Jammu & Kashmir (55%) and Karnataka (51%).

Overall, 20% of older adults age 45 and above with any ADL/IADL limitations needed a helper to perform ADL/IADL. A quarter (25%) of elderly age 60 and above needed a helper to perform ADL/IADL. The elderly who are widowed, living with children and others, and in the richest MPCE quintile needed a helper to assist in ADL/IADL limitations. A higher percentage of the elderly in the state of Arunachal Pradesh (52%) and more than a third of elderly age 60 and above in the states/UTs of Assam (43%), Karnataka (41%), and Lakshadweep (37%) needed a helper to assist with their ADL/IADL limitations.

Figure 38 Percentage of the elderly age 60 and above with the type of ADL and IADL limitations, LASI Wave 1, 2017-18

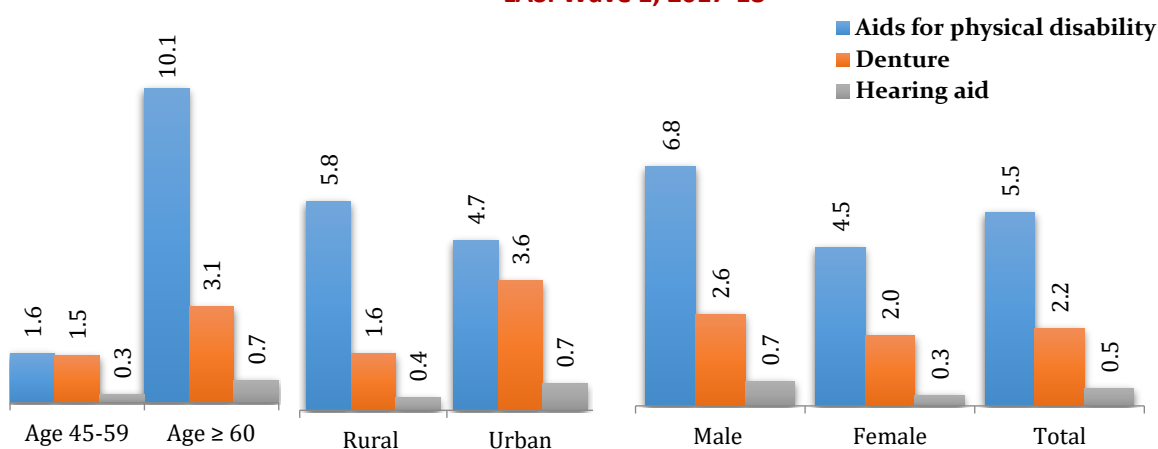


Use of aids or supportive devices

Use of supportive devices provides significant support and benefits for older adults in various ways: safety and prevention (i.e., prevention of falls), mobility and independence, social connectivity and ease of living, preservation of cognitive abilities, delay in depression, decline in functional loss and improved well-being and quality of life.

More than a third (36%) of older adults age 45 and above in India reported having used any aid or supportive device; this proportion is much higher among the elderly age 60 and above (43%) compared with older adults age 45-59 (30%). Among the elderly age 60 and above, the use of any aid/supportive devices is higher among those residing in urban (59%) than in rural areas (37%), and this proportion increases with education and MPCE quintiles ranging from 33% for those with no schooling and 32% for elderly in the poorest MPCE quintile to 70% for those with 10 or more years of education and 54% for those in the richest MPCE quintile.

Figure 39 Percentage of older adults using aids or supportive devices by age, place of residence, and sex, LASI Wave 1, 2017-18



Overall in India, more than a third of the elderly use spectacles/contact lenses. One in ten (10%) elderly use supportive devices for physical disability such as walker/walking sticks, wheelchairs, adjustable shower tools/commodores, back/neck collars, and any orthosis and prosthesis (Figure 39). Three percent of the elderly age 60 and above use dentures and around 1% use hearing devices (Figure 39). The use of spectacles, dentures and hearing aids is higher among the urban elderly whereas, the use of supportive devices for physical disabilities is higher in the rural elderly, suggesting greater access to aids/assisting devices in urban areas.

In Mizoram, Chandigarh and Manipur, a higher proportion of the elderly age 60 and above use hearing aids as well as dentures; whereas, use of aids for physical disability among elderly age 60 and above is higher in the states of Telangana (18%), Manipur (18%), Himachal Pradesh and Jammu & Kashmir (16% each) among elderly age 60 and above.

HEALTH BEHAVIOUR AND RISK FACTORS

Health behaviours are recognised as multidimensional and are embedded in healthy lifestyles. Modifiable health risk factors contribute significantly to the global burden of disease. Tobacco use, alcohol consumption, physical inactivity, and inadequate fruit and vegetable intake are recognised as important risk factors for chronic diseases and mortality. In the LASI, information was collected on four domains of health risk factors: tobacco use, alcohol consumption, physical activity and spiritual activities along with information on food availability.

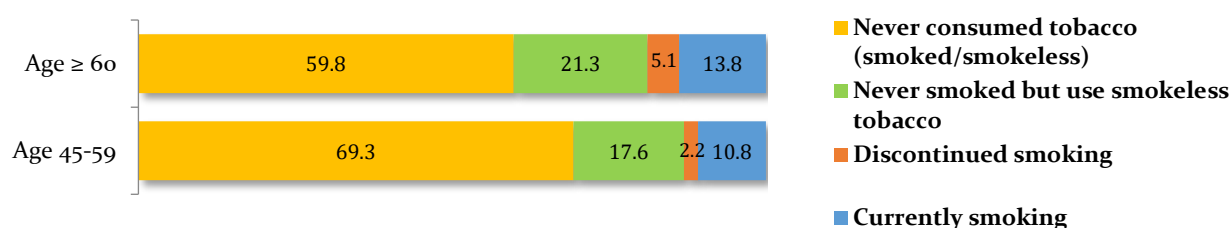
Tobacco consumption

Tobacco use is a primary risk factor for a number of chronic diseases, including cancer, lung disease, cardiovascular disease, and oral health conditions. Tobacco consumption occurs in various forms, broadly comprising two categories: smoked and smokeless. Smoked tobacco involves burning tobacco products and inhaling the smoke (comprising particle and gaseous products), whereas smokeless tobacco involves the consumption of tobacco in forms other than smoking and is widely used across India.

Overall, 30% of older adults age 45 and above in India reported that they are currently using tobacco in either smoked or smokeless form, ranging from 64% in Mizoram to 8% in Punjab. Overall, 12% of older adults age 45 and above are current smokers and 4% are former smokers who discontinued smoking. Twenty-six percent of older adult men age 45 and above are current smokers, as compared to 2.4% of older adult women.

The prevalence of current smoking among the elderly men age 60 and above ranges from about half in Haryana (53%) and Tripura (52%) to less than 10% in Lakshadweep (9%), Arunachal Pradesh (7%), Goa (7%) and Jharkhand (7%). The prevalence of current smoking among the elderly women age 60 and above is higher in the states of Mizoram (24%), Tripura (19%), Uttarakhand (18%), Haryana (14%), Manipur (12%), and Jammu & Kashmir (11%).

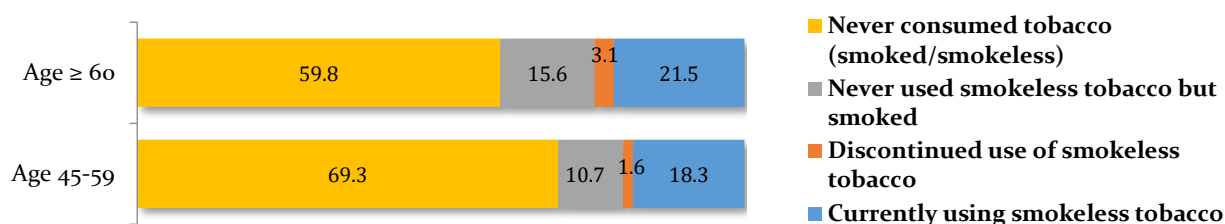
Figure 40 Percent distribution of older adults age 45-59 and elderly age 60 and above by current and ever smoking of tobacco, LASI Wave 1, 2017-18



Smokeless tobacco includes chewing, sniffing, placing of the product between the teeth and gums, or application of smokeless tobacco such as pan, gutkha, khaini etc. Overall, the prevalence of the current use of smokeless tobacco among older adults age 45 and above is 20%; around 2% have discontinued the use of smokeless tobacco, while 78% never used smokeless tobacco. The prevalence of current use of smokeless tobacco among older adult men age 45 and above is 28% compared to 14% among older adult women. The proportions of older adults age 45-59 as well as elderly age 60 and above who are current users of smokeless tobacco is twice as high in rural areas for both men and women than in urban areas.

More than half of the elderly men age 60 and above are currently using smokeless tobacco in Odisha (65%), Jharkhand (57%), and Bihar (53%), whereas; more than half of the elderly women age 60 and above are currently using smokeless tobacco in Odisha (57%) and Tripura (56%).

Figure 41 Percent distribution of older adults age 45-59 and elderly age 60 and above by current or ever use of smokeless tobacco, LASI Wave 1, 2017-18

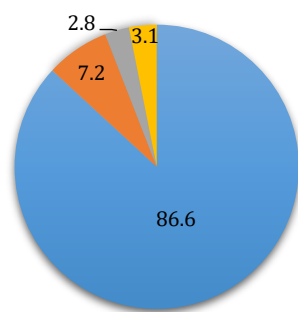


Alcohol consumption

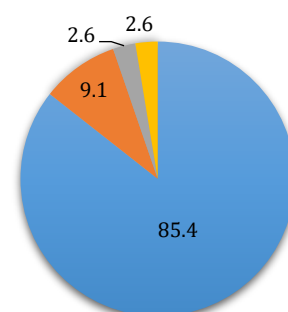
Harmful use of alcohol is primarily associated with its caustic effects on the digestive, brain, and cardiovascular systems. Based on the WHO guidelines, all drinkers are categorised as (a) lifetime abstainer- those who never consumed alcoholic beverages; (b) infrequent non-heavy drinker (social drinker)- those who consume alcohol less than once a month; (c) frequent non-heavy drinker- those who consume alcohol 1-3 days per month, 1-4 days per week or 5 or more days per week but did not consume more than 5 standard drinks on any occasion in the past 30 days; and (d) heavy episodic drinker- those who consume at least 60g or more (approximately 5 drinks) of pure alcohol on at least one occasion in the past 30 days.

Figure 42 Prevalence (%) of alcohol consumption among older adults age 45-59 and elderly age 60 and above by age, place of residence and sex, India, LASI Wave 1, 2017-18

a) Alcohol consumption among older adults age 45-59 b) Alcohol consumption among elderly age 60 and above

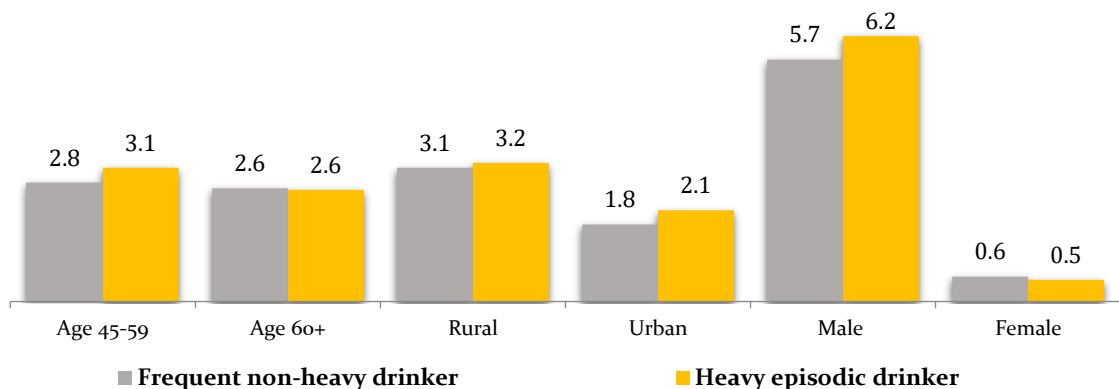


■ Lifetime abstainer
 ■ Infrequent non-heavy drinker
 ■ Frequent non-heavy drinker
 ■ Heavy episodic drinker



■ Lifetime abstainer
 ■ Infrequent non-heavy drinker
 ■ Frequent non-heavy drinker
 ■ Heavy episodic drinker

c) Frequent non-heavy drinker and heavy episodic drinker by age, place of residence and sex among age 45 and above



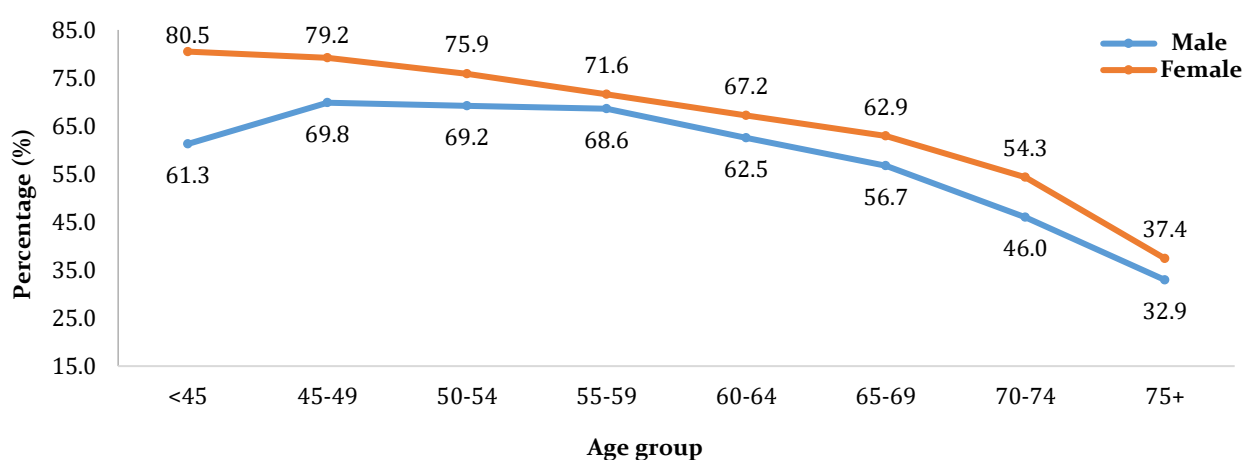
In India, 3.1% of older adults age 45-59 and 2.6% of the elderly age 60 and above are heavy episodic drinkers. Six percent of older adult men age 45 and above and less than 1% older adult women are heavy episodic drinkers (Figure 42c). Older adult men age 45-59, rural older adults, older men living alone, Christians, those belonging to Scheduled tribe and those with no schooling are at risk of harmful use of alcohol. In Arunachal Pradesh, Assam, Manipur and Andaman & Nicobar, both older men and women are heavy episodic drinkers.

Physical activity

Physical activity refers to the movement of the body that consumes energy, and it is essential for maintaining optimum health and wellbeing. In the LASI, physically active older adults are considered to be those who are engaged in either moderate or vigorous activities, as per the definitions of the WHO global recommendation for physical activity, in the last week of the survey.

In India, around 34% of older adults age 45 and above are engaged in only moderate physical activity, 7% are engaged in vigorous activity, 24% are engaged in both moderate and vigorous activities, and 35% are physically inactive. A higher proportion of older adult women age 45 and above (69%) are physically active compared to men (60%). In contrast, physical inactivity is higher among older adult men age 45 and above (40%) than among women (31%). Among older adult men and women age 45 and above, the prevalence of physical inactivity is higher in Mizoram (80% and 75%), Delhi (63% and 55%), Haryana (60% and 50%), and Arunachal Pradesh (59% and 56% respectively).

Figure 43 Percentage of older adults who are physically active, by age and sex, LASI Wave 1, 2017-18



Yoga, meditation, asana, and pranayama

Yoga, meditation, asana, and pranayama are all components of yoga, developed for all around human well-being and growth. The LASI is the first nationally representative study to collect data on yoga practice, meditation, asana, pranayama, etc. among older adults age 45 and above. Eleven percent of older adults age 45 and above in India are practicing some form of yoga more than once a week. The prevalence of yoga, meditation, asana, and pranayama increases with an increase in education and MPCE quintiles.

Overall, those with more than 10 years of schooling and those in the richest MPCE quintile follow a healthy lifestyle and behaviour in terms of the non-use of tobacco or alcohol consumption and a higher proportion of them are engaged in healthy lifestyle activities.

Food availability

Nutrition is another domain of health behaviour that is included in the LASI, used to explore food availability at the household level in the last 12 months prior to the survey. Three questions from the Food and Nutrition Technical Assistance III Project (FANTA) indicating severe constraint in food availability at the household level were included in the LASI.

Overall, 6% of older adults age 45 and above in India had to reduce the size of their meals, 5% were hungry but did not eat because there was not enough food, and 4% did not eat for a full day because food was unavailable in the past 12 months. Food insufficiency is negatively related with education and MPCE quintile. More than one-in-ten (14%) older adults age 45 and above in Madhya Pradesh, Bihar (10%), and Jharkhand (10%) reported severe food constraint to the extent that either they reduced the food intake, they did not eat even though they were hungry, or did not eat for a whole day because food was unavailable.

Food insufficiency can be addressed through enhancement of education and economic condition at household level, betterment of the public distribution system and sufficient production of food at the micro level in India.

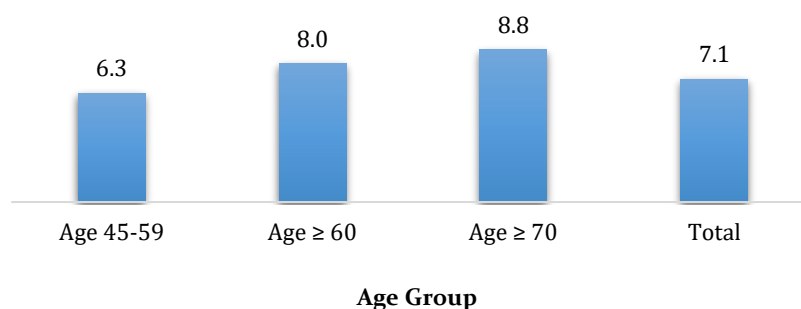
HEALTH CARE, UTILISATION, AND HEALTH FINANCING

Morbidity and multiple chronic conditions increase with age and are associated with limited functional status, high mortality, and rise in the use of both inpatient and out-patient health care. Thus, health needs and demand for health services increases with age. In the LASI survey, detailed information was collected on hospitalisation, out-patient visits, expenditure on health care, quality of care, and health insurance coverage among older adults age 45 years and above in India.

Inpatient care

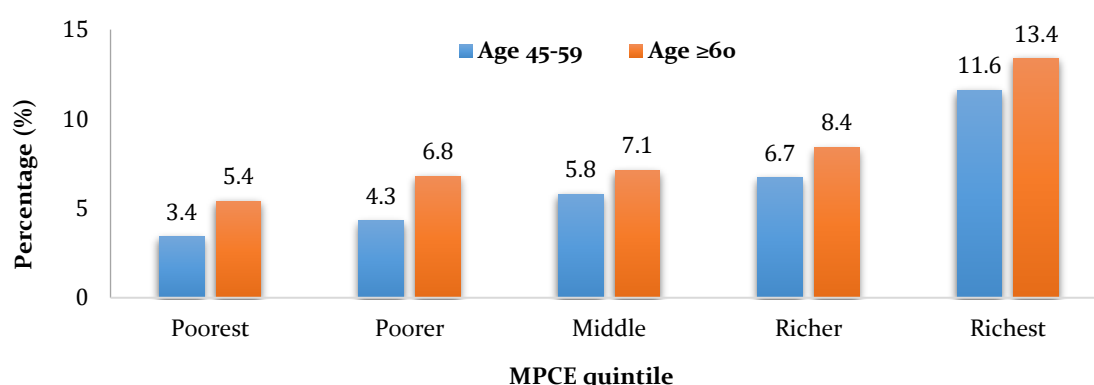
The overall hospitalisation rate is 7% in India for older adults age 45 and above. In the 12 months prior to the survey, the hospitalisation rate increases from 6% among older adults age 45-59 to 8% among the elderly age 60 and above, and 9% among the elderly age 70 and above (Figure 44). The hospitalisation rate for the past 12 months prior to the survey is higher among men than among women and in urban than in rural areas. The inpatient rate is the highest in Himachal Pradesh (11%), followed by Tripura (10.5%), and is the lowest in Chhattisgarh (3%).

Figure 44 Percentage of older adults age 45-59 and the elderly age 60 and above who were hospitalised in the past 12 months prior to the survey, India, LASI, Wave 1, 2017-18



Hospitalisation has a strong economic gradient. The hospitalisation rate increases with economic well-being of the households, measured by MPCE quintile. The hospitalisation rate among the elderly age 60 and above is lower among the poorest (5%) and higher among the richest (13%) MPCE quintiles (Figure. 45). Among other factors, accessibility and affordability of health services are potential factors leading to variations in hospitalisation rates among older adults and elderly in India.

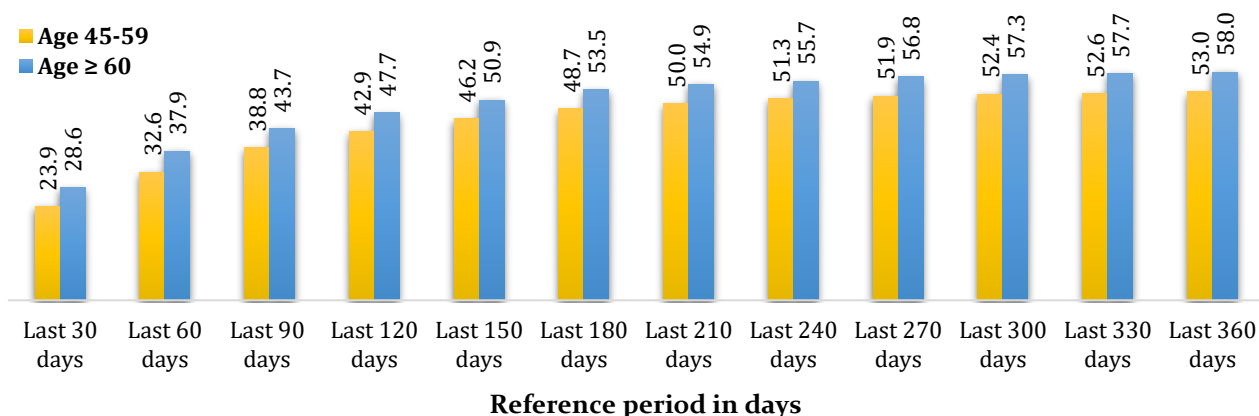
Figure 45 Percentage of older adults age 45-59 and the elderly age 60 and above who were hospitalised in the past 12 months prior to the survey by MPCE quintile, India, LASI Wave 1, 2017-18



Out-patient care

In India, the out-patient rate for older adults age 45 and above in one month prior to the survey is 26%, 29% for the elderly age 60 and above, and 24% for older adults age 45-59. The out-patient rate is higher in rural areas than in urban areas, among women than men, among the widowed than those who are currently married, and among those living alone. The out-patient rate increases with increasing reference period: around 60% of the elderly age 60 and above, and more than half (53%) of the older adults age 45-59 sought out-patient care, one year prior to the survey (Figure 46).

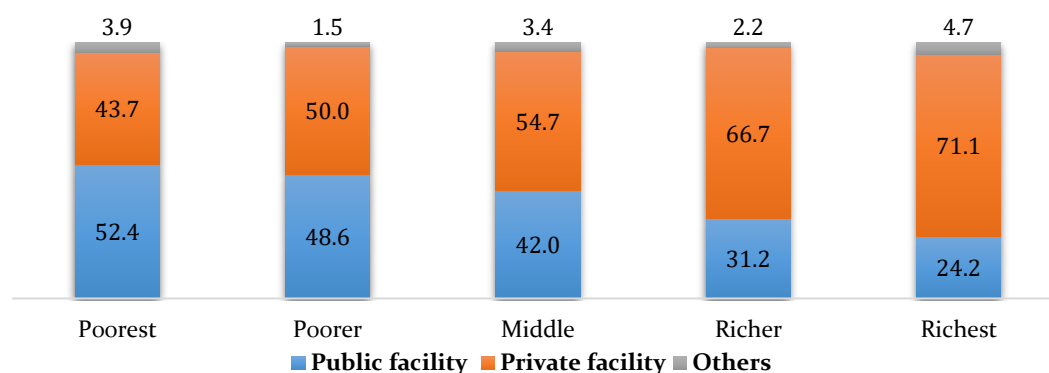
Figure 46 Percentage of older adults age 45-59 and the elderly age 60 and above who had out-patient visits by duration of reference period, India, LASI, Wave 1, 2017-18



Healthcare by type of health facility

In India, among older adults age 45 and above who were hospitalised, about two-fifths (35%) received care from a public health facility compared to three-fifths (62%) from private health facility. In the case of out-patient care, 23% of older adults age 45 and above utilise public health facility compared to 64% utilising private health facility. The majority of older adults in the poorest MPCE quintile utilise inpatient care from public health facility. In contrast, a major proportion of older adults in the poorest MPCE quintile utilise out-patient care from private health facilities.

Figure 47 Percent distribution of the elderly age 60 and above who were hospitalised 12 months prior to the survey by type of health facility according to MPCE quintile, India, LASI Wave 1, 2017-18



Health care utilisation by type of health facility varies widely across the states of India. The proportion of older adults age 45 and above using public health facility for inpatient care is highest in Tripura (86%), followed by Andaman & Nicobar Islands (83%), and Jammu & Kashmir (83%) and while it is lowest in Jharkhand (16%), as well as in Maharashtra (18%) and Karnataka (18%). The proportion of older adults age 45 and above using inpatient care from private health facilities is higher in the states/UTs of Karnataka and Jharkhand (80%), and lower in Tripura (13%), Arunachal Pradesh (14%), and Andaman & Nicobar Islands (17%).

The proportion of older adults age 45 and above using public health facility for out-patient care is the highest in Andaman & Nicobar Islands (87%), followed by Lakshadweep (85%), and Arunachal Pradesh (78%), and is the lowest in Bihar (11%). The use of private health facility for out-patient care is the highest in the states of Telangana (82%), Maharashtra (83%), and Andhra Pradesh (76%).

Reasons for hospitalisation and perceived quality of care received

Among all older adults age 45 and above who were hospitalised in India, 63% were hospitalised for non-communicable diseases (NCDs), 21% were hospitalised for communicable diseases, and about 6% were hospitalised for maternal health problems and other diseases. CVDs (high blood pressure, heart disease, and stroke) account for 16% of all hospitalisation cases. Similarly, among older adults age 45 and above who sought out-patient care, nearly half of them were treated for NCDs, 34% were treated for communicable diseases and 14% for maternal and child health problems and other diseases.

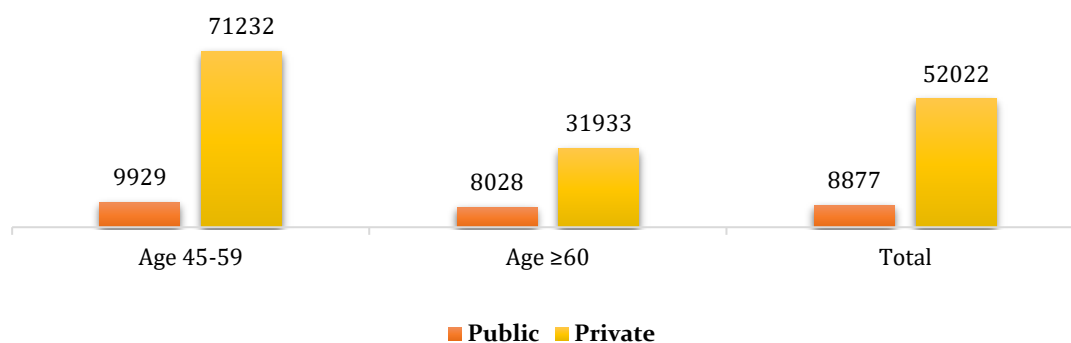
All those who received inpatient or out-patient care were asked about the quality of health care received during their last hospitalisation or out-patient visit. The questions included waiting time, privacy, cleanliness, interpersonal communication and getting the health care of their choice. Overall, 58% of the older adults age 45 and above rated the quality of the care they received during their last hospitalisation as good, 23% as average, and 19% as poor. Similarly, 61% of those who received out-patient care rated it as good.

Expenditure on healthcare

The mean out-of-pocket (OOP) expenditure among older adults age 45 and above for the last inpatient visit to public health facility is ₹8,877 compared to ₹52,022 in private health facility. The mean OOP expenditure in private health facility among elderly age 60 and above is ₹31,933 compared to ₹71,232 among older adults age 45-59 (Figure 48). The mean out-of-pocket expenditure for the last inpatient visit is higher in urban areas than in rural areas for both public and private health facilities. The mean OOP expenditure in public health facilities is the highest in Delhi (₹69,347), followed by Nagaland (₹35,850) and Himachal Pradesh (₹27,971). The mean out-of-pocket expenditure in private health facilities is much higher in Andaman & Nicobar Islands (₹1,27,099), Karnataka (₹1,25,825), Tripura (₹95,578), and Himachal Pradesh (₹93,405).

For those who received outpatient care, the mean OOP expenditure for outpatient care during the last 30 days prior to the survey is ₹1,061; it is higher for the elderly age 60 and above (₹1,149) compared with the older adults age 45-59 (₹977). The mean OOP expenditure is higher for those living with their spouse and children than those having other types of household living arrangements. Mean OOP expenditure on outpatient care varies directly with educational attainment and MPCE quintile. The highest mean OOP expenditure is reported in the state of Arunachal Pradesh (₹10,368) followed by Himachal Pradesh (₹3,477), Nagaland (₹3,288) and Meghalaya (₹3,152). Tamil Nadu (₹641), Gujarat (₹644), and Puducherry (₹645) reported lower mean OOP expenditure on outpatient care.

Figure 48 Mean out-of-pocket expenditure incurred in (₹) during inpatient visit by type of health facility in India, LASI, Wave 1, 2017-18



Health insurance

Health insurance coverage is a mechanism for increasing health care utilisation and improving health outcomes among the general population. Overall, a fifth (21%) of the older adults age 45 and above are covered by health insurance; insurance coverage is higher among older adults age 45-59 (23%) than among the elderly age 60 and above (18%). A higher proportion of older adult men (22%) than women (20%) age 45 and above have health insurance; those from rural areas (21%) are more likely to have health insurance than those in urban areas (19%).

Across the states/UTs of India, more than half of the older adults age 45 and above have health insurance in Mizoram (65%), Odisha (61%), Dadra & Nagar Haveli (61%) and Assam (53%). Whereas, less than 5% of the older adults age 45 and above have health insurance in the states/UTs of Andaman & Nicobar Islands (0.1%), Jammu & Kashmir (0.6%), Nagaland (0.7%), Bihar (1.2%), Manipur (1.1%), Uttar Pradesh (1.9%) and Madhya Pradesh (3%).

FAMILY AND SOCIAL NETWORK

Social support, social networks, and social ties are connected to a variety of positive health outcomes and measures of wellbeing. A detailed profile of social networks and social interactions is essential to understand the wellbeing of older people. Despite the profound benefits for ageing adults, social networks and social ties have often been neglected in large surveys. Especially in developing countries, social care and support begin with family, the primary social group that individuals relate to on a personal level. Therefore, detailed information on family and social connectedness, living arrangements, intimacy and relationships, and social support provided and received by older adults have been gathered in the LASI.

Living arrangements

Living arrangement is a reflection of an individual's social support system and is also an important determinant of overall life satisfaction and quality of life. In countries like India, children and families have the primary responsibility of taking care of older adults. In recent decades in India, there has been a rise in elderly living alone or only with spouse. The most common type of living arrangements amongst the respondents across all of the categories is living with a spouse and children (41%), followed by living with children without spouse (28%), and living with spouse (20%) (Figure 49). However, 6% of elderly age 60 and above are living alone and it is around 9% among elderly women. Nearly three-fourths (74%) of the widowed elderly live with their children. The majority of the respondents, irrespective of sex, are satisfied with their current living arrangements and just about 5% expressed their intention to change them in the future.

Figure 49 Percent distribution of the elderly age 60 and above by type of living arrangement, India, LASI Wave 1, 2017-18

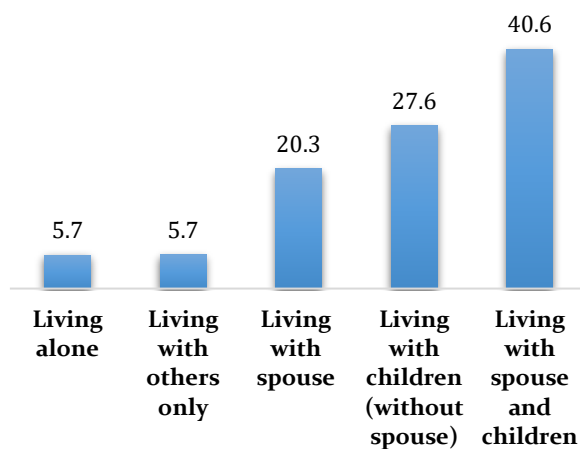
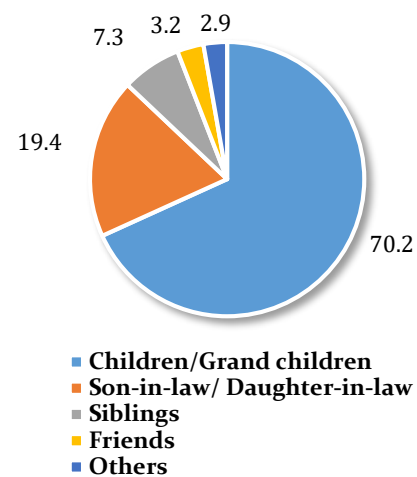


Figure 50 Percentage of the elderly age 60 and above (not having spouse) with whom they share most of their personal matters, India, LASI Wave 1, 2017-18



In the LASI survey, respondents were asked with whom they share most of their personal matters from a list that included their spouse, children or grandchildren, sons-in-law or daughters-in-law, siblings, friends, and others. Among the elderly with a spouse, 82% shared most of their personal matters with their spouse, followed by their children or grandchildren (32%). Among the elderly without a spouse, 70% shared their personal matters with their children or grandchildren, followed by their son-in-law or daughter-in-law (19%) ((Figure 50).

Instrumental care

A little more than 90% of the elderly respondents have grandchildren and amongst them, almost one-fifth (18%) provided care to their grandchildren. Rural elderly women have an average of ten grandchildren and spend, on average, 20 hours per week taking care of them. The average time spend by the elderly in providing care to their grandchildren is slightly lower for elderly men and urban respondents. Irrespective of sex and age variations, the most common reasons cited for looking after grandchildren are: grandparents are the preferred caregivers (73%), the child's parents are working (22%), the child is orphaned (9%), and the child's parents are away (5%).

Two percent of the elderly age 60 and above have family members who are unable to carry out basic daily activities such as eating, dressing, taking a bath, and using the toilet. Among them, 64% of the elderly age 60 and above reported taking care of these dependent members in their family. The average number of hours the elderly age 60 and above spent providing care in the week prior to the survey is 19 hours.

Receiving or providing financial support

Fifteen percent of the elderly age 60 and above received financial help from family members or friends, while 6% provided financial help to others in the past year (Figure 52). This latter dynamic provides insight regarding financial contributions from the elderly to their families which is often ignored in the available literature.

Figure 51 Average number of grandchildren and average hours spent in taking care of grandchildren by the elderly age 60 and above, India, LASI Wave 1, 2017-18

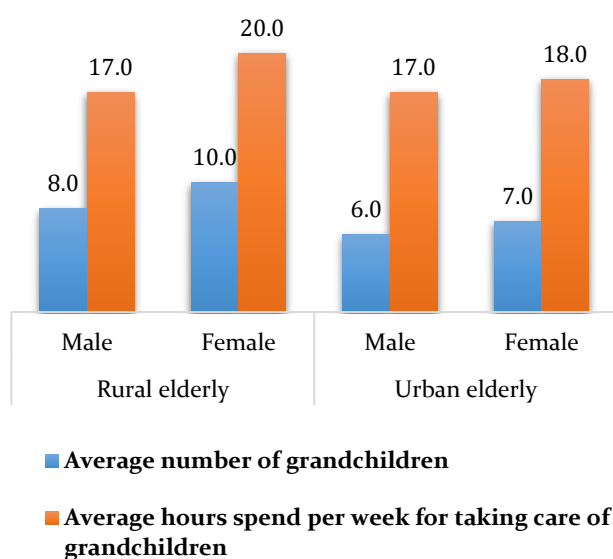
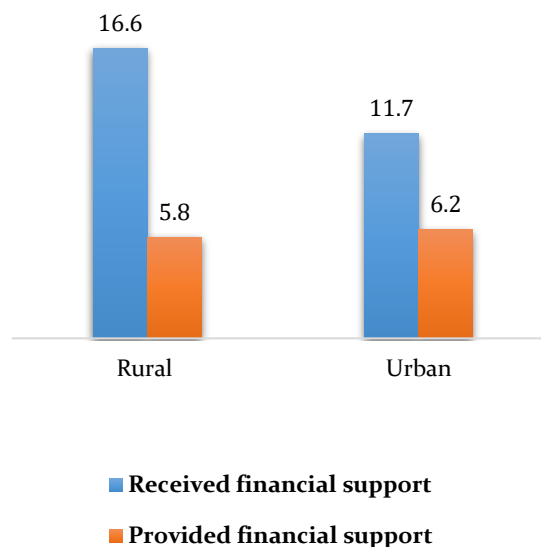


Figure 52 Percentage of the elderly age 60 and above receiving or providing financial support to family and friends during the past 12 months by place of residence, India, LASI Wave 1, 2017-18

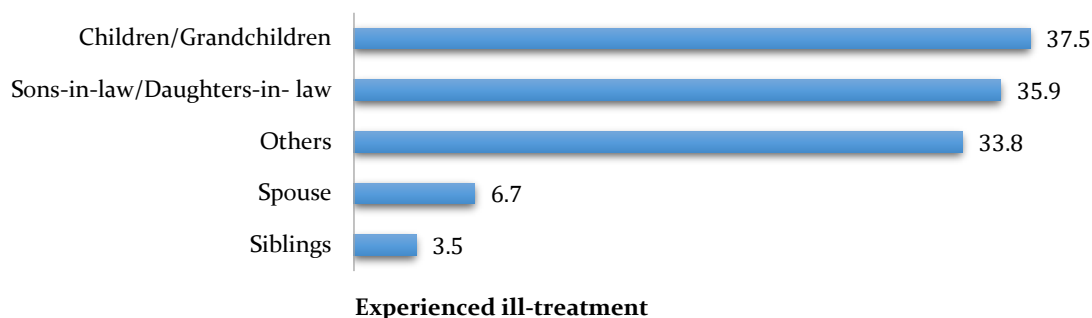


Ill-treatment/abuse experienced by the elderly

Elder abuse and neglect are increasingly acknowledged as social problems across the world, and India is no exception. In the LASI survey, 5% of the elderly age 60 and above have reported that they experienced ill-treatment in the year prior to the survey. More elderly women than men experienced ill-treatment. A higher proportion of the elderly who live alone and those who were divorced/separated/deserted experienced ill-treatment.

A higher proportion of the elderly age 60 and above who live alone and those in urban areas experienced ill-treatment frequently. Among those who were victims of ill-treatment, a half (53%) experienced it occasionally (i.e. once in two months), a third (33%) experienced it only a few times (i.e. at least once in a year), and 14% experienced it frequently (at least once in two weeks). The prevalence of the experience of ill-treatment among the elderly is relatively higher in Bihar (12%), Karnataka (10%), West Bengal (8%), Uttar Pradesh (6%), Chhattisgarh (6%), Chandigarh (6%) and Madhya Pradesh (5%).

Figure 53 Percentage of the elderly age 60 and above who experienced ill-treatment by type of perpetrator, India, LASI Wave 1, 2017-18



Among the elderly who experienced ill-treatment in the last one year, more than three-fourths (77%) experienced verbal/emotional ill-treatment, a fifth (24%) experienced physical abuse, slightly more than one-fourth (27%) experienced economic exploitation, and more than half experienced neglect.

Elder abuse or ill-treatment is often perpetrated by those who are supposed to take care of the elderly. The LASI survey confirmed that the main caregivers are often the primary abusers. Two-fifths of the elderly who experienced abuse were ill-treated by their own sons or daughters (38%), sons-in-law or daughters-in-law (36%), and spouse (7%). These numbers are suspected to be underreported, as abuse at the hands of the person who provides ongoing care often leaves the victim less likely to report such incidents (Figure 53).

SOCIAL DECISION-MAKING, SOCIAL PARTICIPATION, AND LIFE SATISFACTION

Intra-household decision-making

With an objective to understand the decision-making and the role of elderly within the family, in the LASI information is collected about who usually makes the decisions for important household matters such as marriages of children, buying and selling of properties, and education of family members. Four percent of elderly men and 9% of elderly women do not have any role in decision-making on marriages in the family. Thirteen percent of elderly women reported that they have no role in family decision-making on buying or selling of property, and 17% have no role with regard to decisions related to the education of family members. With declining financial power and functional abilities, many of the elderly are left out of family decision-making processes.

Participation in social activities

Around 9% of older adults age 45-59 are having membership in any social/community organizations as compared to only 5% among the elderly age 60 and above. Older adults age 45-59 having membership in social organization is relatively higher in north-eastern and southern Indian states. Among those who are members of any organization, one-third of elderly age 60 and above are engaged in self-help groups or NGOs, cooperatives or Mahila Mandals and 15% are members of religious/spiritual organizations.

Life satisfaction

Life satisfaction is an important psycho-social measure of well-being of individuals, especially in old age. Based on a scale constructed considering the responses given by the individuals, around 32% elderly age 60 and above have low satisfaction, 22% have medium satisfaction and 46% have high life satisfaction.

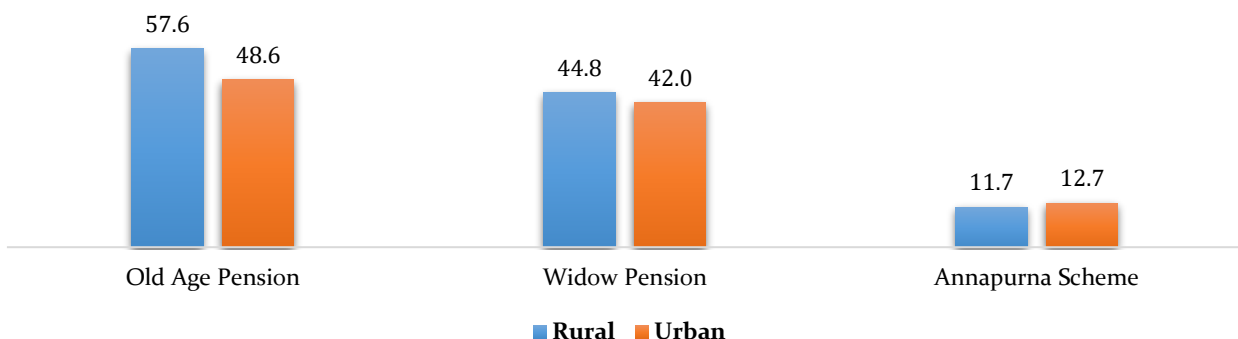
Discrimination experienced

Perceived discrimination has been defined as an individual's perception of being treated unfairly by other people due to personal attributes such as race, ethnicity, age, gender, socioeconomic status, physical appearance or other characteristics. In order to capture the perceived everyday discrimination, the six questions were asked in LASI about the experiences of older adults in their day-to-day lives and the reasons for it. Ninety-three percent of the elderly interviewed do not feel that they were discriminated. Among them who perceived day-to-day discrimination, majority of the elderly (62%) perceive their age as the main reason for the discrimination, followed by their financial status (37%). Fourteen percent perceive their religion or caste as the main reason behind the discrimination. While religion or caste-based and financial status-based discrimination is more frequently cited in rural areas, gender-based discrimination is more common in urban areas.

SOCIAL SECURITY SCHEMES FOR THE ELDERLY

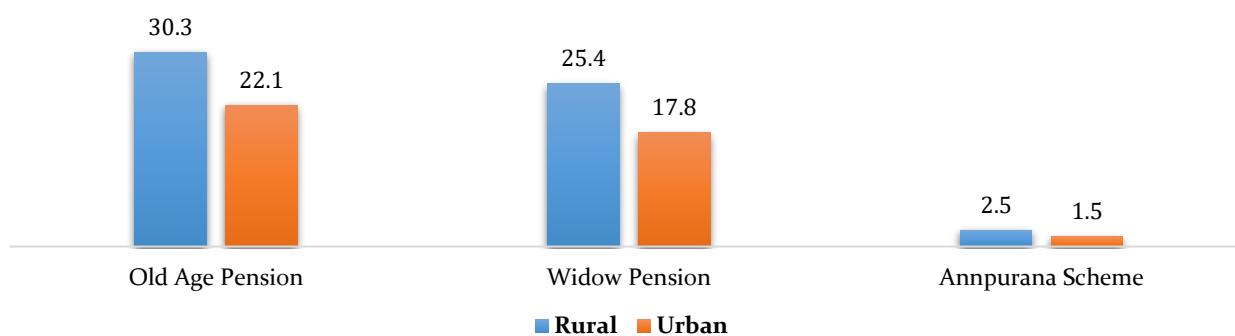
In the LASI survey, information is collected on the awareness and out-reach of various social security programs targeted to the elderly. Among the different social security schemes, the Indira Gandhi National Old Age Pension Scheme (IGNOAPS), Indira Gandhi National Widow Pension Scheme (IGNWPS) and the Annapurna scheme are the three mostly known schemes among the elderly in India. A good proportion of the elderly are aware of the IGNOAPS (55%) and IGNWPS (44%), while awareness of the Annapurna scheme is rather limited (12%). These findings indicate the need for better campaign and awareness generation strategies aimed at the elderly. The level of awareness for the IGNOAPS, IGNWPS, and Annapurna Schemes increases as the level of education increases.

Figure 54 Percentage of the elderly age 60 and above who are aware about various schemes by place of residence, India, LASI Wave 1, 2017-18



Across India, amongst the elderly age 60 and above, the majority (44%) of widows have not heard about the IGNWPS. Across all of the states/UTs, the awareness of the IGNOAPS and IGNWPS is higher amongst the elderly in the states of Haryana (78%), Himachal Pradesh (77%), Bihar (82%), Jharkhand (78%), Odisha (74%), Assam (84%), and Dadra & Nagar Haveli (78%).

Figure 55 Percentage of the elderly age 60 and above of BPL households who utilise various schemes by place of residence, India, LASI Wave 1, 2017-18



About a third of the rural elderly (30%) age 60 and above from BPL households received benefits from IGNOAPS, therefore, there is a need for reaching out to more poor elderly. Amongst the elderly widows belonging to BPL households, a quarter of them (25%) received widow pension. For elderly widows, they can either receive an old-age pension or a widow pension, but they cannot be beneficiaries of both schemes simultaneously.

The percentages of the elderly receiving these benefits are lower in urban areas than in rural areas. Although the schemes are meant for elderly in BPL households and are destitute, 18% of the elderly men belonging to non-BPL households received the benefits of an old-age pension, and 16% of the elderly women of non-BPL households received the benefits of the widow pension. Thirty percent of the beneficiaries of the old-age pension scheme stated that there was a delay in receiving the money, and 24% experienced problems in producing documents. Various problems reported such as the cumbersome process of enrolment, delay in receiving the money, etc. need to be addressed.

Government provides various concessions to senior citizens such as discounts on train, bus, air travel, special interest rates for bank accounts and loans, income tax rebates, etc. Less than a third (28%) of the elderly age 60 and above are aware of any of the concession provided by the government. A lower proportion of rural elderly are aware of the concessions than their urban counterparts. The awareness of concessions amongst the elderly is highest in the state of Maharashtra (65%) and lowest in the state of Nagaland (2%). With the exception of Maharashtra, in the other states/UTs, the majority of the elderly are not aware of any concessions provided by the government. A higher proportion of the elderly age 60 and above from urban (37%) areas compared to rural (25%) areas have used the concessions at least once in their life.

The awareness and utilisation of these concessions among the rural elderly are rather limited and therefore, campaigns focusing on rural areas through NGOs and Panchayats may help in creating better awareness among rural elderly. A higher proportion of elderly men (33%) than elderly women (24%) have used concessions. The concessions are also being utilised more by the elderly who are economically well-off because of their enhanced awareness. Higher education and better household economic conditions also led to a higher utilisation of these concessions.

Only 12% of the elderly in India are aware of the Maintenance and Welfare of Parents and Senior Citizens Act-2007; awareness is relatively higher amongst the urban elderly (19%) than the elderly from rural areas (10%). More elderly men than women are aware of the Act, and awareness amongst the elderly increases with increased levels of education. This demonstrates that awareness campaigns in local languages on the provisions of the Act are necessary. Helplines for senior citizens should be used for spreading information about the Act, and Panchayats must be involved in creating awareness in the rural areas.

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Wave-1



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