ISSN 2664-8059 (Print) & ISSN 2706-767X (Online)
South Asian Research Journal of Nursing and Healthcare
Abbreviated Key Title: South Asian Res J Nurs Health Care

| Volume-8 | Issue-2 | Mar-Apr- 2026 | **DOI: https://doi.org/10.36346/sarjnhc.2026.v08i02.002**

Original Research Article

Healthcare and Wellness Management: A Cross-Sectional Study on Prevalence, Risk Factors, and their Management of Selective Geriatric Illness and Wellness Care among the Elderly in Urban Areas and Urban Slums of Delhi NCR, India

Ms. Almas[1], Dr. P. S. Raychaudhuri[2*], Dr. Sakhi John[2]

[1]Ph.D Scholar, Department of Healthcare and Pharmaceutical Management, School of Management and Business Studies, Jamia Hamdard University, New Delhi, India
[2]Department of Healthcare and Pharmaceutical Management, School of Management and Business Studies, Jamia Hamdard University, New Delhi, India

***Corresponding Author:** Dr. P. S. Raychaudhuri
Department of Healthcare and Pharmaceutical Management, School of Management and Business Studies, Jamia Hamdard University, New Delhi, India

Article History
Received: 05.02.2026
Accepted: 17.03.2026
Published: 19.03.2026

Abstract: This cross-sectional study investigates the multidimensional facets of ageing and wellness among older and elderly adults in urban slum settings, with an emphasis on epidemiology, risk factors, and the management of chronic diseases. A gender-balanced sample, predominantly from the early elderly age group (60-69 years) and those above that age group or more, revealed stark disparities in education, health awareness, and caregiving burdens, disproportionately impacting women. Family-centric living arrangements emerged as a cornerstone of well-being, fostering superior nutrition, medication adherence, and emotional support, while solitary living heightened risks of neglect, social isolation, and healthcare inaccessibility—exacerbated by socio-economic constraints. The cohort exhibited a high burden of non-communicable diseases, with hypertension, diabetes, cardiovascular disease, and kidney disorders predominant, alongside sensory impairments, thyroid issues, and mental health challenges. Positively, most participants adhered to balanced diets and light physical activity like walking, bolstered by family involvement, though structured exercise and routine check-ups lagged. Findings underscore that healthy ageing hinges on integrated medical care, health literacy, socio-economic enablers, lifestyle behaviours, and familial support. Targeted interventions are imperative to bridge preventive care gaps, prioritize cardiovascular and renal disease management, and uplift vulnerable subgroups. By promoting accessible healthcare, physical activity, and supportive ecosystems, such strategies can enhance dignity, independence, and quality of life in ageing populations.

Keywords: Elderly Population, Geriatric Health, Cardiovascular Disease, Kidney Disease, Urban, Urban Slum.

INTRODUCTION

India's elderly population in Delhi NCR faces a growing burden of geriatric illnesses like cardiovascular disease, orthopaedics vision impairments, and multiple chronic condition, resulting from urbanization which lead to change in lifestyle, although rapid urban growth has improved access to advanced medical services, it has also resulted in substantially higher healthcare costs, which are affordable primarily to individuals with strong financial resources. Some have inadequate geriatric services due to expensive medical services. Despite elevated prevalence rates, which is 58% for hypertension and 30% for diabetes, research gaps continue to occur in area-specific risk factors, effective management strategies, and wellness interventions. (Prabhakar *et al*., 2021).

Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

The elderly population in India who lives Delhi NCR deals with increasing pressure of elderly or geriatric illness such as cardiovascular disease, orthopaedics, as well kidney related disease.

Need for the Study

In India, elderly people are suffering from various geriatric illnesses like cardiovascular disease, orthopaedic issues, vision and hearing problems, and kidney problems. This may happen due to a change in lifestyle, high medical costs, their diet, and their affordability. This study mainly focuses on the comparison of various factors, wellness measures, and prevalence of geriatric illness and diseases between urban and urban slum areas. 58% have high blood pressure, and 30% have diabetes, and the earlier past studies lack details on local risks, good treatments, and wellness help for urban and urban slum areas. This cross-sectional cum exploratory study fills those gaps and helps us find out the main focus of further future study.

Scope of the Study

This basic study focuses only on elderly people who are 60 years of age or more, majority of them being in early elderly age (60-69 years) and those living at home with or without their family in urban or urban slum areas in Delhi NCR. It checks their demographic factors like age, education level, common old-age diseases (heart issues, kidney problems, high BP, diabetes), daily habits (food, exercise, taking medicines), and how they get health help. Data comes from 100 people (50 men/50 women), and out of these 100 respondents, there are 50 who belong to an urban area /50 to an urban slum. The factors mentioned is compared on the basis of their place of residence, that is, urban and urban slum.

Wellness in Elderly Care

Well Me Right (2024) explains that wellness for the elderly includes broader aspects than avoiding illness. It is a comprehensive framework that encourages mental, physical, and social well-being. It unifies life experiences, facilitates meaningful social interaction, and corresponds with individual strengths and goals. Promoting health-improving behaviours, it strengthens general health, maintains autonomy, assists in managing ongoing medical conditions, and deals with challenges, including loneliness and mental health issues. Individualized care highlights the significance of growth and resilience in aging, concentrating on strengths over weaknesses.

Geriatric Illnesses in Delhi NCR: Prevalence

Delhi NCR encounters a lot of public health challenges due to geriatric illnesses, shaped by urban growth, demographics, and social changes. In the 60+ age group, chronic non-communicable diseases (NCDs) are the leading health concern; over 63% report at least one morbidity, increasing to 87% in relation to NCDs. c impacts nearly one-third of the population (32.5%), while diabetes affects 13%, chronic kidney disease (CKD) 18%, and chronic obstructive pulmonary disease (COPD) between 10 and 11%. Cognitive deficits and psychological health difficulties are also increasing rapidly, far above normal rates in the younger generation, and there are some elderly too, who are facing depression and have issues with their mental health, which are associated with loneliness. (Gupta H. L *et al*., 2002).

Key Risk Factors

Multiple factors contribute to this burden in urban and urban slums in Delhi NCR:

- Age-related physiological decline.
- Environmental exposures like air pollution and sedentary lifestyles.
- Poor nutrition and low physical activity.
- Socio-economic barriers and limited healthcare access.
- Genetic and family history.

These amplify NCD prevalence in a rapidly aging population. (Bhardwaj P., 2026)

Management Strategies

Some strategies now support interdisciplinary teams for chronic care, including screenings, rehabilitation, and family support. Elderly patients require specialized care that addresses physical, emotional, and social needs ("Dharamshila Rahat Medical Centre," 2022). Apart from clinical treatment, services also involve mental health support, nutrition planning, physiotherapy, and practices like yoga and meditation. Government and private initiatives encourage collaborative care to safeguard independent functioning and wellness.

Spotlight: Cardiovascular Diseases (CVDs)

CVDs, such as those resulting from inadequate blood supply in the heart or other heart diseases and stroke, can also lead to death and disability in elderly people globally. Since elderly individuals often have multifaceted health profiles not represented in trials, it is crucial to adopt geriatric-specific assessments, targeted treatments, and prevention strategies. Arterial disease and atrial arrhythmias increase the burden, underscoring the need for tailored cardiology research. (Qu C., *et al*., 2024)

Spotlight: Kidney Problems; Chronic Kidney Disease (CKD)

"Better Health Channel" (2024) explains that kidney function usually declines with age. Among people over 65, CKD prevalence approaches 40%. Early stages are frequently asymptomatic, but the condition is linked to diabetes, high blood pressure, and cardiovascular disorders, resulting in fatigue, anaemia, changes in urination, bone complications, and cardiac risks. Management depends on regular health check-ups, blood sugar level or pressure control, and changes in lifestyle to slow improvement, avoid dialysis or transplants, and maintain quality of life.

LITERATURE REVIEW

Systematic Literature Review

In this study, a systematic literature review (SLR) design was applied that integrated the applicable literature concerning the prevalence, risk factors, management, and wellness care modalities for selected geriatric (diabetes, hypertension, depression, multi-morbidity, and frailty) illnesses in older individuals with particular reference to Delhi NCR. The evaluation followed international standards for systematic review, and reporting guidelines based on PRISMA 2020 to promote transparency, methodological soundness, and reproducibility. We adopted a narrative synthesis method, as heterogeneity based on different study designs, outcome measures, and reporting formats resulted.

Search Strategy

We conducted a comprehensive electronic search and utilized the following databases:

- PubMed
- Scopus
- Google Scholar
- Indian geriatric and public health journals

The search was for publications up to January 2026 (Dinarvand D *et al*., 2024)

Key Steps of the Systematic Literature Review (SLR)

1. Defining the Research Focus

The review commenced by clarifying its aim: to study the prevalence, risk factors, and management of selective geriatric illnesses among elderly populations, with special relevance to Delhi NCR.

2. Developing a Review Plan

A protocol was created as per the principles of PRISMA to ensure transparency and consistency.

3. Conducting the Literature Search

Relevant studies were searched in PubMed, Scopus, and Google Scholar using predefined keywords related to elderly health, risk factors, and management.

4. Screening and Selecting Studies

Titles, abstracts, and full texts were critically reviewed using explicit inclusion and exclusion criteria, leading to 30 selected studies (Khan *et al*., 2003).

Why Use a Systematic Literature Review (SLR)?

- **Offers a Fuller Picture**

Gathers and integrates the results of several studies and gives a comprehensive snapshot of a research area.

- **Reduces Bias**

Employs an organised and transparent process that reduces the scope of personal judgment for choosing and interpreting studies.

- **Provides Transparency and Reliability**

Following guidelines such as the PRISMA framework makes the process clear, reproducible, and trustworthy.

- **Promotes Evidence-Based Decision-Making**

Assists policymakers, healthcare professionals, and researchers in making informed decisions based on consolidated evidence.

- **Identifies Research Gaps**

Highlights areas where information is lacking, guiding future research priorities.

- **Saves Time and Avoids Duplication**

Summarizes existing knowledge so researchers do not repeat already completed work.

- **Useful for Complex Health Issues**

Especially valuable for topics like geriatric illnesses, where evidence is spread across many studies and disciplines.

- **Enables Better Planning of Policy and Practice**

Provides strong evidence to design effective healthcare programs and interventions (Khan *et al*., 2003).

PRISMA Framework for SLR

To support transparency and methodological clarity, a systematic literature review was conducted using the PRISMA (Preferred Reporting Items for Systematic Review and Meta Analyses) 2020 framework. A systematic search of PubMed, Scopus, Google Scholar, and selected Indian journals yielded approximately 150 publications. Following removal of duplicates, titles, and abstracts screening, 50 full-text articles were eligible for inclusion based on inclusion and exclusion criteria. Last but not least, 30 relevant studies were included in the review. The PRISMA study selection was done using the four phases—identification, screening, eligibility, and inclusion—and was then structured to systematically, impartially, and well-documented synthesize the evidence with respect to geriatric health in Delhi NCR (McKenzie *et al*., 2021).

What the PRISMA Framework Includes

The PRISMA system offers a consistent framework for systematically and transparently reporting review outcomes. These include elements such as the following:

- **PRISMA Checklist**

A 27-item checklist that outlines the essential information required in each section of a systematic review — the title, abstract, introduction, methods, results, and discussion.

- **PRISMA Flow Diagram**

A four-phase diagram that illustrates visually how studies move through the review process — identification, screening, eligibility, and final inclusion (McKenzie *et al*., 2021).

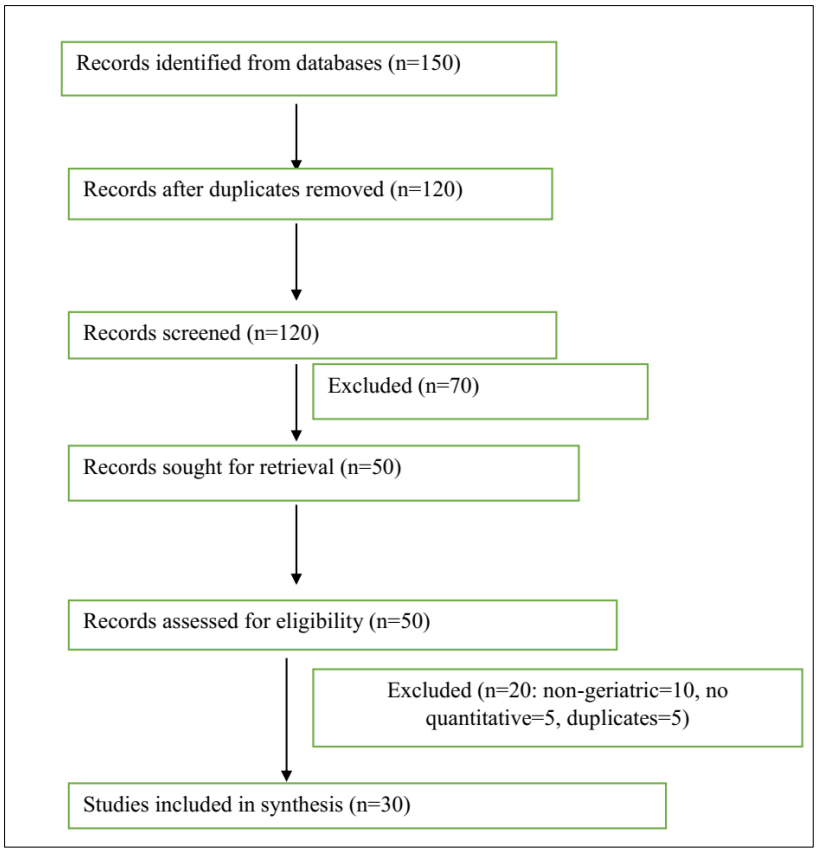

Figure A: PRISMA flow diagram
Source: UNC Health Science Library, 2025

There are 16, which focus on India, including LASI (Longitudinal Ageing Study for India) for Delhi NCR in the urban area, the remaining 14 are from foreign comparatives (UNC Health Science library, 2025)

Identification of Research Gaps

Table A: Research Gaps

Research Gap	Main Variables/Themes	Sub-Themes	Key References
Urban-rural and gender disparities in disease prevalence and treatment-seeking	Health disparities, geographic inequality, and gender differences	Urban vs. rural prevalence of diabetes and hypertension; treatment-seeking variations; gendered disease experiences	Chauhan & Gupte (2021); Kumar & Chauhan (2023); Banerjee *et al*., (2021); Boro & Banerjee (2022)
Socioeconomic and educational determinants of depression and healthcare inequities	Socioeconomic status (SES); education; mental health inequality	Role of literacy and income in depression prevalence; SES-linked access to care	Kumar & Chauhan (2023); Panda & Dash (2023); Dias & Azariah (2016)
Unmet healthcare and nutrition needs for rural elderly	Healthcare utilization, food security, and living conditions	Rural vulnerability factors (education, income, living arrangements); nutrition gaps	Das & Kundu (2023)
Resilience and mental health interventions for the elderly with chronic illness	Psychological resilience; chronic illness; wellbeing	Correlation between resilience, illness perception, and well-being; need for intervention models	Noel & Williams (2004)
Policy interventions for improved elderly healthcare utilization and service access	Public health policy; healthcare infrastructure; elderly services	Need for financial protection and targeted rural healthcare schemes	Banerjee *et al*., (2021); Mohanty & Sahoo (2022)
Awareness and accessibility of community resources	Social support; community engagement; awareness levels	Dependency on family and pensions; lack of awareness of health/community programs	Dias & Azariah (2016); Hamilton & Milne (2020)
Environmental risks and ageing (heat stress, living conditions)	Environmental determinants: climate vulnerability	Heat exposure, housing quality, gender disparities in environmental illness risk	Weitz & Mukhopadhyay (2022)
Financial vulnerability and catastrophic health expenditure	Health financing; household dependency; economic risk	Old-age dependency ratios, limited insurance coverage, and inequality in CHE	Mohanty & Sahoo (2022)
Intersectional inequalities across gender, literacy, and rurality	Intersectionality: social determinants of health	Combined impacts of gender, education, and geography on elderly disease outcomes	Panda & Dash (2023); Kumar & Chauhan (2023)
Social prescribing and sustainable interventions for wellbeing	Innovative health interventions; community integration	Effectiveness and limitations of social prescribing frameworks	Hamilton & Milne (2020)
Multi-morbidity, frailty, and SES/gender disparities	Multi-morbidity; frailty; ageing health burden	SES, gender, and health patterns across diseases; preventive strategies	Khan & Malik (2022); Silva & Carvalho (2019); Yarnall & Sayer (2019)
Subjective well-being, mental health, and loneliness in later life	Subjective wellbeing; depression; loneliness	Cross-cultural variations; health and happiness in aging; social connections	Steptoe & Deaton (2014); Victor & Scambler (2005)
Multifactorial fall risk in elderly diabetics	Diabetes; fall risk; lifestyle factors	Sleep quality, environment, balance, and medication as fall predictors	Rashedi & Iranpour (2019)
Need for individualized care guidelines in multi-morbidity and frailty	Geriatric care models; risk stratification	Patient-centred and functional status–based hypertension/frailty management	Benetos & Petrovic (2019); Extremera & Cia-Gomez (2011); Ahmadi & Streia (2015)

Source: Researcher's own literature analysis

Key Findings from Literature

Urban–rural health trends in this study mirror international data. Diabetes and hypertension are most prevalent in urban areas (19–27%), while rural individuals are often undiagnosed and under-treated according to the Longitudinal Ageing Study in India. Depression occurs predominantly in elderly people in urban areas and is also common in urban regions, with the highest prevalence among women and older people with modest education — at least 22% — with high prevalence noted in developing countries. With increasing wealth and urbanization, multi-morbidity, frailty, and

medication burden are on the rise, underscoring the need for integrated care, as the National Institute for Health and Care Excellence (NIHCE) has stressed. Socioeconomic factors are also central: education accounts for much of the urban–rural divide, while heat stress, poor living conditions, and elevated healthcare costs exacerbate vulnerability in NCR slum communities. Women continue to be disproportionately impacted. Positively, resilience and better diet quality are associated with healthier ageing. High costs restrict access to care despite the availability of urban healthcare (again consistent with disparities in Shanghai). Strategies such as social prescribing, team-based frailty care, and sound de-prescribing provide tangible ways to support wellbeing (Chauhan *et al*., 2021; Boro, 2022; Arvind *et al*., 2018).

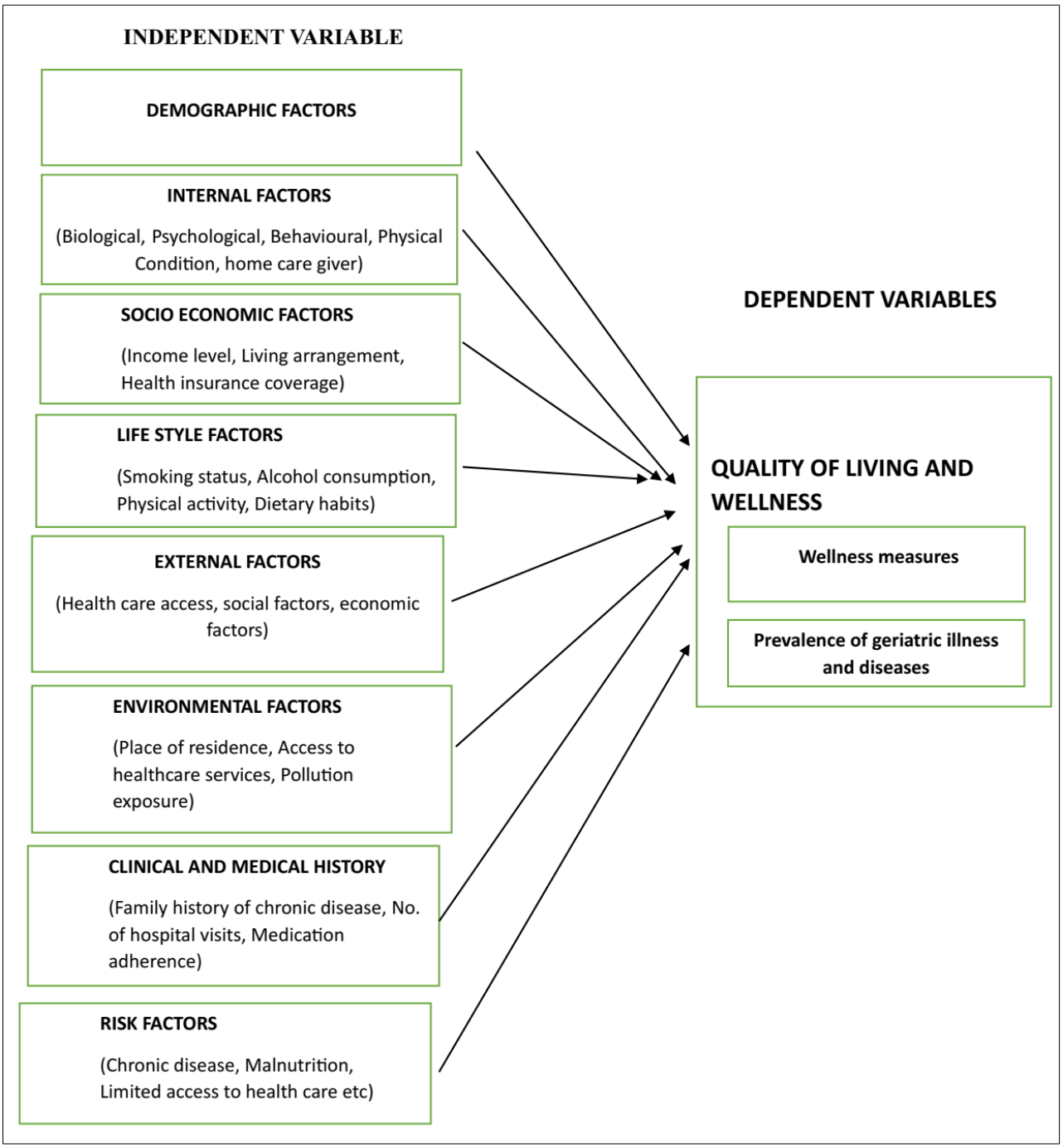

Figure B: CONCEPTUAL FRAMEWORK
Source: Researcher's Literature and conceptual analysis

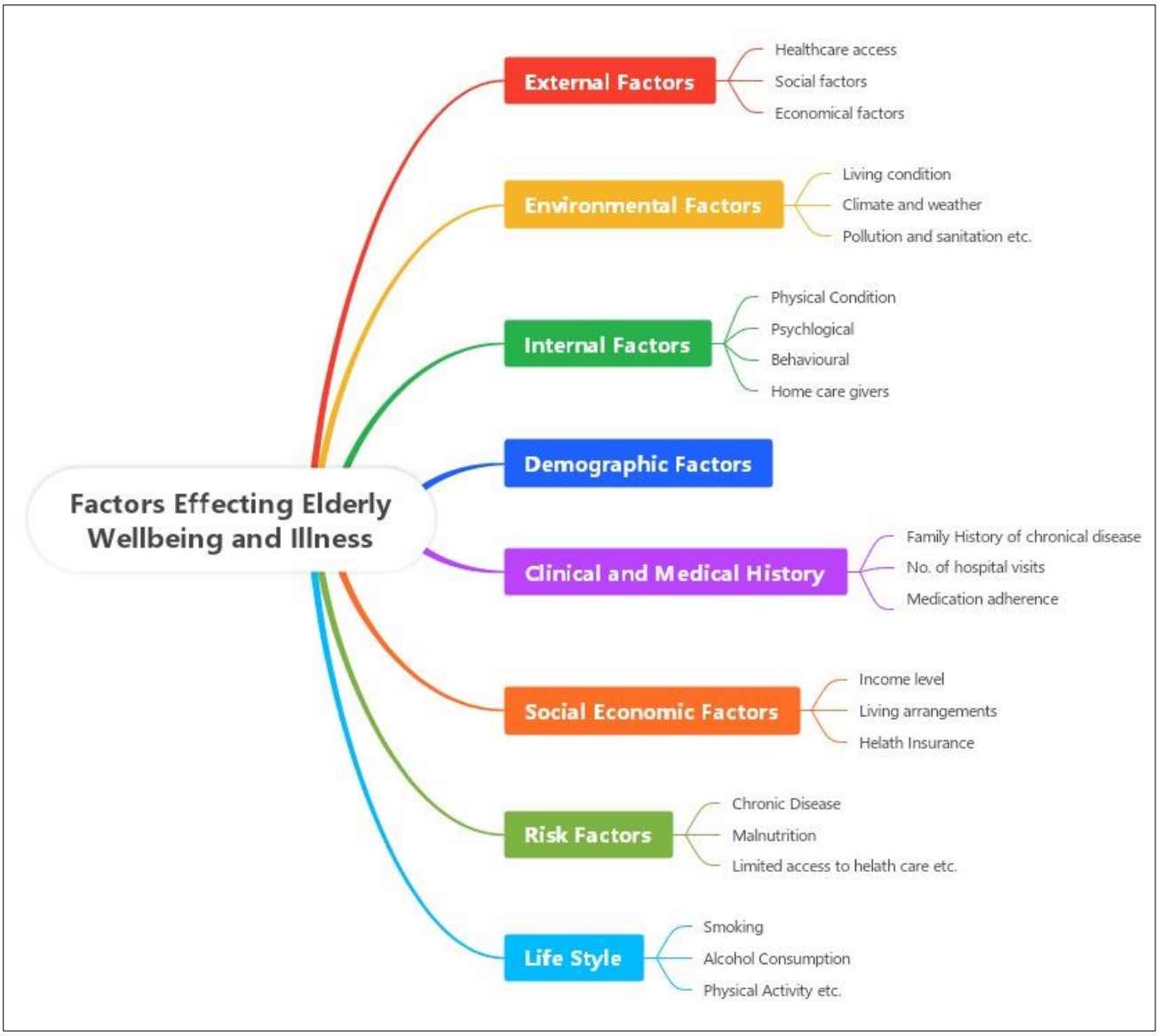

Figure C: FACTORS AFFECTING ELDERLY WELL-BEING AND ILLNESS
Source: Researcher's literature and conceptual analysis

Objectives of the Study

1. To compare the socio-demographic profiles of elderly individuals in urban areas and urban slums, including age, gender, education, family structure, and area of residence.
2. To determine and compare the prevalence of common geriatric health problems among elderly individuals in urban areas and urban slums, with a particular focus on chronic conditions such as cardiovascular and kidney diseases.
3. To assess and compare lifestyle practices and health-related behaviours of elderly individuals in urban areas and urban slums, including dietary patterns, physical activity, and medication adherence.
4. To examine and compare the health-seeking behaviours and perceived health status of elderly individuals in urban areas and urban slums, particularly in relation to regular health check-ups and access to healthcare services.

RESEARCH METHODOLOGY

Study Design

The exploratory cross-sectional study has applied a quantitative method to evaluate the demographic factors, health condition, lifestyle habits, and disease distribution among elderly participant ages is 60 years or more. The design facilitates Preliminary assessment of core variables such as gender, age, education qualification, residence location or area, size of family, pre-existing health condition or chronic illness, dietary pattern, medication compliance, physical activity (yoga, morning or evening walk, etc.), Regularity of health examinations, and self-rated health status. The research

outcomes show Initial observations and baseline data to lay the groundwork for future research on High-impact health conditions that include cardiovascular and kidney diseases.

Study Setting and Population

The study was carried out in urban and urban slum areas of Delhi NCR during September 2025 to November, 2025. The study aimed at non-institutionalized (home care) elderly individuals (≥60 years). Respondents were selected from urban slums and from surrounding communities to achieve socio-economic diversity in the sample.

Sample Size and Sampling Technique

A convenient sampling method was used to select 120 participants, of which 100 respondents, and it has an equal gender distribution that is (50 males, 50 females) and an equal distribution across locations (50 urban, 50 urban slum). This non-probability method was chosen for Viability in obtaining difficult-to-reach elderly populations, emphasizing representation over randomization.

Data Collection Tool and Procedure

Data were collected by adopting a face-to-face interview according to participants' preferred language (Hindi, English, Urdu). The tool consisted of open-ended questions on socio-demographics (gender, age, education qualification, residence location or area, size of family, pre-existing health condition or chronic illness, dietary pattern, medication compliance, physical activity like yoga, morning or evening walk, etc.). Interviews lasted 20-30 minutes each. Charts and tabulated summaries were generated post-collection to support initial analysis.

Inclusion and Exclusion Criteria

Inclusion:

Community living adults aged 60 years and above who were able to provide information through verbal consent and had lived in the study area for at least one year were included.

Exclusion:

Bed-confined participants, those with critical cognitive deficits (such as Alzheimer's disease, which affect reliability of the respondent's response), and non-permanent residents or non-local were not included in the study.

Data Analysis

Because questions were open-ended, responses were collected manually. Descriptive analyses were conducted, with frequencies, percentages, and distributions calculated for discrete variables. Age was classified (e.g., 60–69, 70–79, ≥80 years) as a quantitative variable and presented using bar charts (Figures 1–11). Raw counts are presented in Tables 1–11. Since this study was an exploratory cum cross-sectional study, inferential testing was not performed or applied. Outliers were verified through a data quality check, and internal consistency was maintained. The overall sample of n = 120, data from 20 individuals were excluded from the final analysis due to non-response or errors detected during data collection.

Findings Sub-Headings Corresponding To the Questions in Survey

GENDER

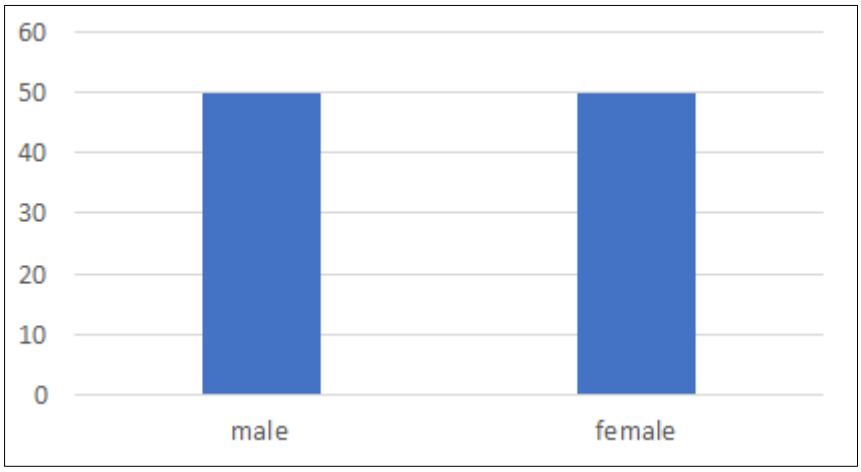

Figure No 1: Gender

Source: Researcher's survey data)

Table No 1: Gender

Gender	Percentage	Frequency
Male	50%	50
Female	50%	50

Source: Researcher's analysis

RESULT: Gender: Among the 100 participants in the study, the gender distribution is as follows:

- 50 participants are female (25 from urban area; 25 from urban slums).
- 50 participants are male (25 from urban area; 25 from urban slums).

Interpretation: This indicates that an equal proportion of male and female participants was included in the study sample.

AGE

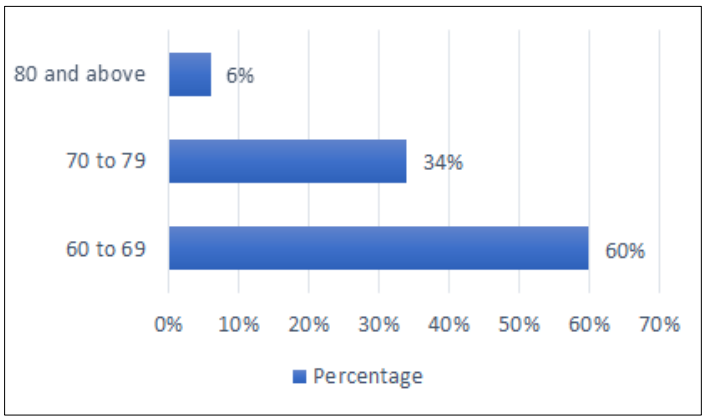

Figure No 2: Age
Source: Researcher's analysis

Table No 2: Age

Age	Percentage	Frequency
60 to 69	60%	60
70 to 79	34%	34
80 and above	6%	6

Source: Researcher's survey data)

Age:
Result: Age distribution of the participants the age distribution of study participants is as follows:

- 60 individuals are aged 60–69 years and comprise the group making the majority of the sample.
- There are 34 respondents in the age group 70–79 years.
- 6 of the participants are aged 80 years and above.

Interpretation:

This distribution illustrates that the majority of participants are those in the early elderly stage (60–69 years) and fewer are older. And this suggests that, in proportion to the number of participants above 80 years, not many survive to quite significant ages.

Education Qualification:

Table No 3: Education Qualification

Education qualification	Male percentage	Female percentage	Male frequency	Female frequency
Illiterate	0%	16%	0	8
Primary	0%	60%	0	30
Secondary	16%	25%	8	10
Graduation	76%	4%	38	2
Post graduation	8%	0	4	0

Source: Researcher's analysis

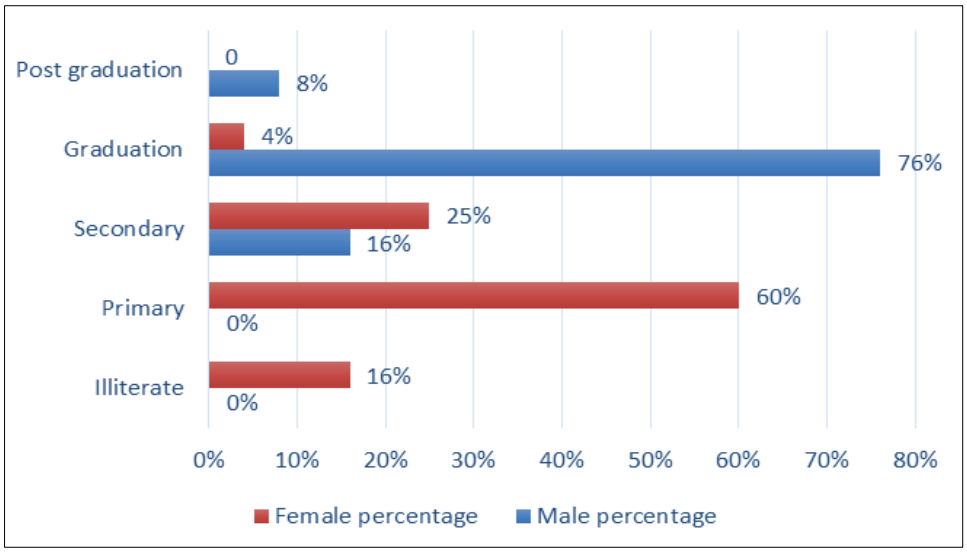

Figure no 3: Education qualification
Source: Researcher's survey data

Result: Participants' educational backgrounds show differing gender (education level of the study participants) in different aspects of education:

- Women Participants (total: 50; urban area: 25; urban slums; 25)
- 8 women are illiterate.
- 30 women have completed primary education.
- 10 women have studied up to the secondary level.
- 2 have graduated.
- Male Participants (total: 50; urban area: 25; urban slums: 25):
- 38 men have graduated.
- 4 men have completed post-graduation.
- 8 men have studied up to the secondary level.

Interpretation:

This also means that male participants are moderately more educated than female participants, and in both genders, in general, people had lower educational attainment, though they were not completely illiterate.

Graduating and post-graduation of male/female demographics are high in urban areas, and the non-graduate population have tendency to live in urban slums. This disparity is due to limited educational opportunities and inadequate financial resources that block access to post-secondary education, and thereby having lesser incomes who therefore live in urban slums; making living arrangements in urban areas are more costly compared to urban slums.

Location and Area:

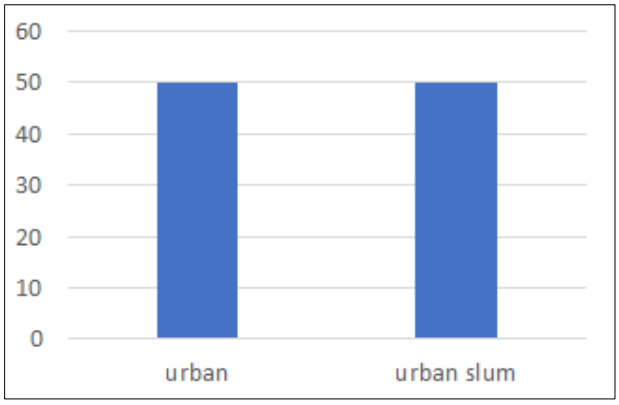

Figure No 4: Location and Area
Source: Researcher's survey data

Table No 4: Location and Area

Location and area	Percentage	Frequency
Urban	50%	50
Urban slum	50%	50

Source: Researcher's analysis

Result: Location of survey; urban / urban slum: The participants from both urban and urban slum are uniformly distributed as follows:

- 50 participants belong to urban areas.
- 50 participants are from urban slum area contexts.

Interpretation:

The balanced distribution of the perspectives of elderly people, who come from both urban and urban slum locations, allows for comparative insights to be obtained from the study.

Family size or Members Currently:

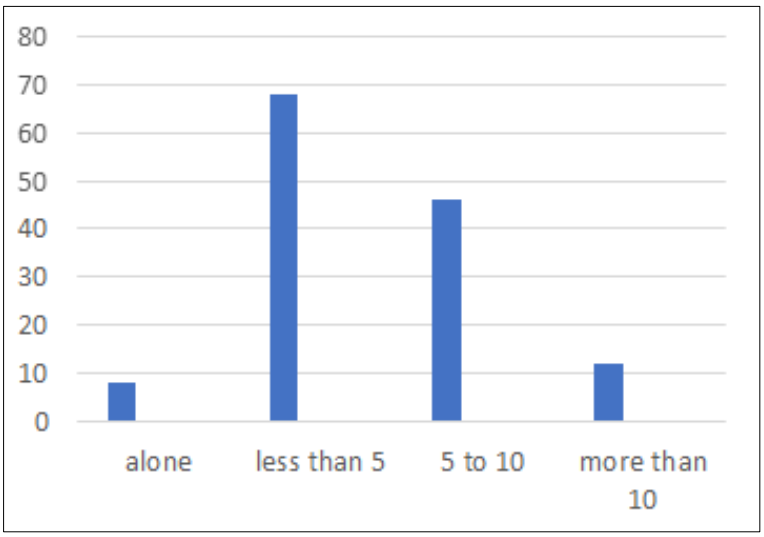

Figure No 5: Family Size or Members Currently
Source: Researcher's survey data

Table No 5: Family Size or Members Currently

Family members	Percentage	Frequency
Alone	8%	8
Less than 5	68%	68
5 to 10	46%	46
More than 10	12%	12

Source :Researcher's analysis

Result: The family size between each of the participant's family members is of great variation:

- 46 participants live in household sizes varying between 5 - 10 members.
- 68 living in smaller families with less than 5 members, or reside only with their spouse.
- Eight participants are living alone, without any immediate family members in the household.
- 12 participants belong to families with more than 10 members of large families.

Interpretation:

This distribution could be associated with the diversity of living arrangements of seniors, from solitary homes to large joint family arrangements, or perhaps may be an effect on their ability to access social support. Older citizens living alone mostly live in big cities. For example, they may be living away from their children or in outlying, different places, in an isolated location, but are still living independently with their spouse. They most of the time try to refuse to relocate, preferring to stay home if it is their own residence and not move abroad with their children.

Diseases

Table no 6: Diseases

Diseases	Men percentage	Female percentage	Male frequency	Female frequency
Diabetes	56%	32%	28	16
Hypertension	64%	40%	32	20
Cardiovascular	72%	8%	36	4
Hearing and vision problem	36%	40%	18	20
Kidney problem	48%	16%	24	8
Depression	4%	12%	2	6
Cervical neck	0%	4%	0	2
Thyroid	8%	16%	4	8
Alzheimer	8%	0%	4	0

Source: Researcher's analysis

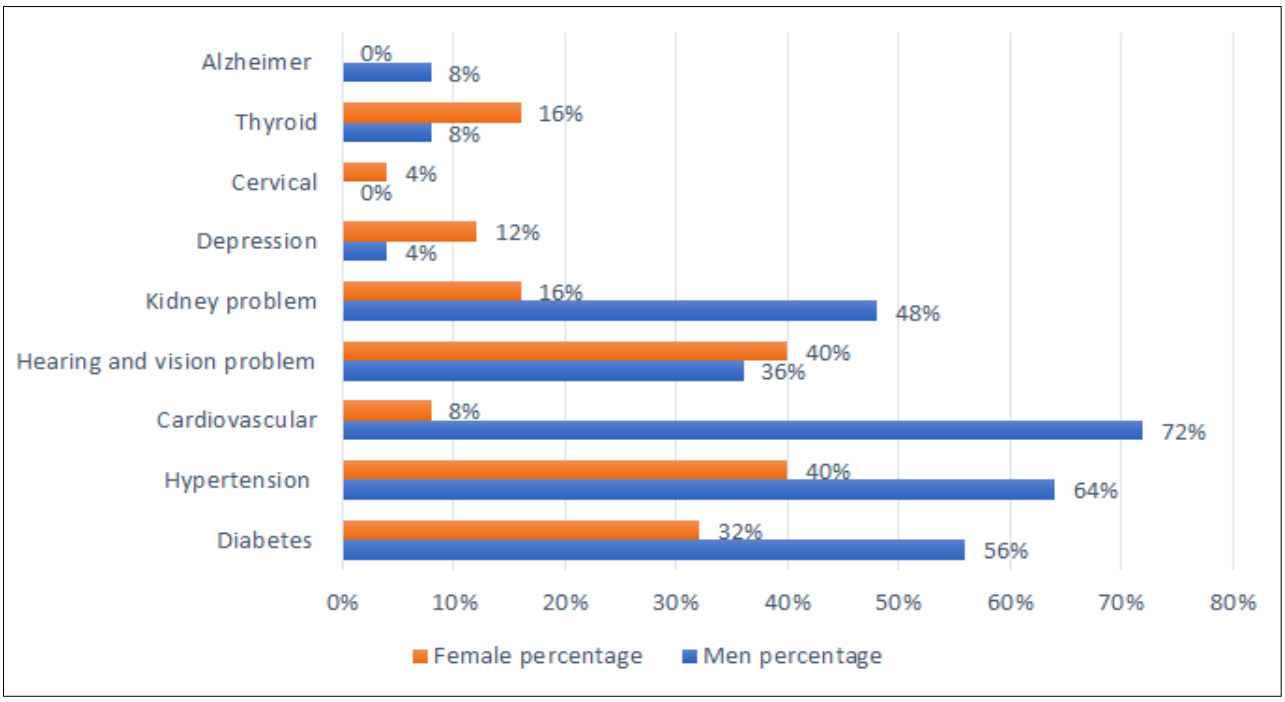

Figure No 6: Diseases
Source: Researcher's survey data

Result: "What health problems do you have at this moment?" that followed, the responses showed the following patterns:

- Diabetes was one of the most prevalent diagnosed conditions (44 out of 100 participants) and highly prevalent, in which 56% are male out of 50 male participants and 32% female out of 50 female participants.
- Hypertension (Blood Pressure) was observed in 52 out of 100 participants. 64% were male out of 50 male participants, and 40% female out of 50 female participants.
- 40% out of the 50 female and 64% of the 50 male participants had cardiovascular diseases, indicating a substantial burden of chronic disease.
- Hearing and vision issues were much less prevalent, comprising 36% out of the 50 male participants and 40% out of the 50 female participants.
- Kidney Problems noted by 32 out of 100 participants, indicating a health concern in renal health.
- Depression was found among 4% out of the 50 male participants and 12% out of the 50 female participants suggested mental health issues existed more among the participants who live alone.
- Thyroid Disorders were detected in 12 out of 100 participants, which shows a smaller but significant number of thyroid disorders present in the population.
- Age-related cognitive decline was the main health issue, with Alzheimer's Disease in 4 out of the 100 respondents.
- Cervical neck (2 of 100 respondents): an isolated but significant health problem.

Interpretation:

These findings will allow for future research based on the two most common conditions: cardiovascular disease and kidney-related disorders. Moreover, due to close association with cardiovascular disease, hypertension, and diabetes, the kidney problems will be examined alongside cardiovascular disease, as they are closely associated risk factors.

Type of Diet

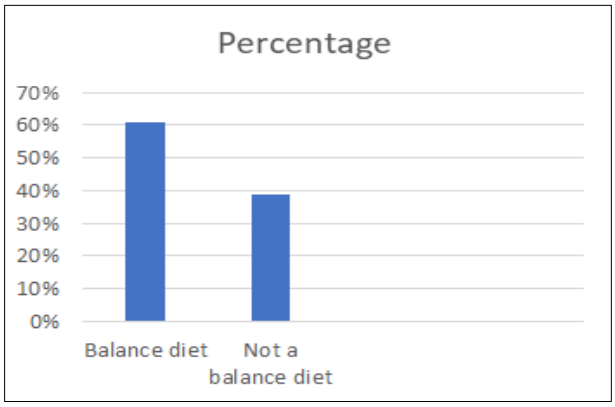

Figure No 7: Diet
Source: Researcher's survey data

Table No 7: Diet

Diet	Percentage	Frequency
Balance diet	61%	61
Not a balance diet	39%	39

Source: Researcher's analysis

Result: Investigating the dietary behaviours of the participants revealed the:

- As most of the male participants were educated and taken care of by their own children, they were aware of topics related to health and nutrition.
- 61% out of 100 surveyed participants said they had a healthy nutrition and included an excellent amount of cereals, dal, vegetables, fruits, dairy, eggs and nuts, and milk, thereby having a balanced diet composed of proteins, carbohydrates, fibres and fats.
- Rest 39% out of the 100 participants are not able to follow a proper balanced diet.
- Not the least, weekly or monthly participants also ate non-vegetarian foods such as eggs, chicken, and mutton.
- Out of 100 participant 62 participants were vegetarians who eat vegetarian food and follow a vegetarian diet consisting mainly of vegetables, dairy, dal, vegetable protein, and cereals.

Interpretation:

These findings suggest that most elderly individuals will be following a mindful lifestyle and dietary habits with family support to help control their health conditions better. Those participants who do not adhere to a healthy diet are more likely to be single-handedly or not diet-adherent or may not have adequate knowledge regarding balanced diets. A point that had been observed for urban slum dwellers, in the knowledge of dietary pattern (diet and the maintenance of a balanced diet), there is a potential problem with this.

Able To Take Medicine Regularly:

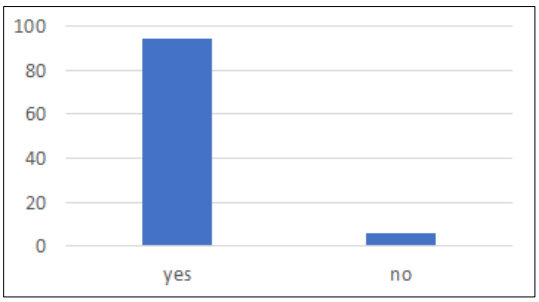

Figure No 8: Able To Take Medicine Regularly
Source: Researcher's survey data

Table No 8: Able To Take Medicine Regularly

Able to tale medicine regularly	Percentage	Frequency
Yes	94%	94
No	6%	6

Source: Researcher's analysis

Result: The following were observed when answering questions to participants regarding their medication behaviours.

- 94 participants stated that they were able to take their medicines regularly, as their children or family members reminded them and ensured timely intake.
- The other subjects sometimes forgot to take their medications, particularly due to involvement in household work or lack of regular reminders.
- Among them, 6 women said they had some domestic duties, which sometimes led them to miss their medication schedule.

Interpretation:

This implies that family support is a cornerstone for medication adherence in senior citizens. But household responsibilities and forgetfulness may lead to irregular medication intake for some among both genders, highlighting the need for better support mechanisms. In urban areas, elderly people live with their families, so they receive support in household work and medicine availability, which helps them to take medicines regularly. In contrast, in urban slums, elderly individuals usually need to manage their own expenses if they live alone, and women often handle household responsibilities, which increases the chances of forgetting to take medication.

Physical Activity:

Table No 9: Physical Activity

Physical activity	Percentage men	Percentage women	Frequency men	Frequency women
Walk	44%	38%	44	38
Yoga	4%	0	4	0
Exercise	0	0	0	0
Other physical activity	0	12%	0	12
No physical activity	2%	0	2	0

Source: Researcher's analysis

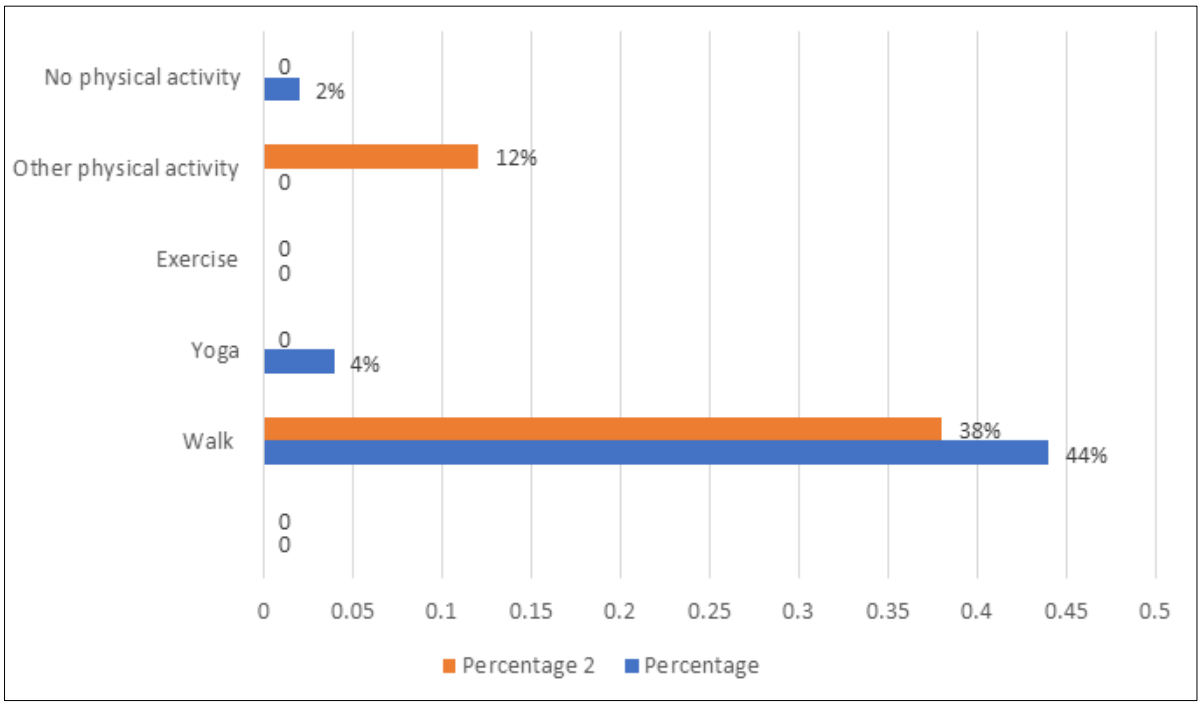

Figure No 9: Physical Activity
Source: Researcher's survey data

Result: When asked about physical activity and exercise habits, the following patterns were observed:

- Of the 50 women participants, 38 reported walking during the evenings, while 12 considered their household chores as their primary form of physical activity.
- Of the 50 men participants, 44 walked in the morning or evening period, while 4 men also practiced yoga.
- In contrast, in urban areas about 2 % male participants reported that they did not engage in any form of physical exercise, citing that they spent a significant amount of time using mobile phones instead.

Interpretation:

This suggests that while the majority of elderly participants were involved in walking or yoga as physical activity, a small proportion showed sedentary behaviour linked to high mobile phone use, which may affect their overall health and wellness.

Regular health check-up

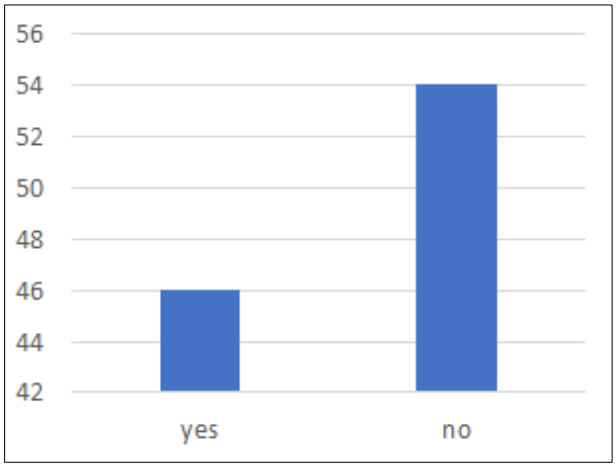

Figure No 10: Regular Heath Check-Up
Source: Researcher's survey data

Table No 10: Regular Health Check-Up

Regular health check-up	Percentage	Frequency
Yes	46%	46
No, only visit hospital when they have any health issue	54%	54

Source: Researcher's analysis

Result: The response to the question of health check-ups revealed:

- As part of preventive health care, 46 participants mentioned that regular health check-ups (including full body check-ups) were done.
- Others explained, they only visit doctors or get check-ups if they have health-related issues, like pain or discomfort.

Interpretation:

These results suggest that while some elderly individuals are becoming proactive in monitoring their health through regular check-ups, the majority continue to take a reactive approach, seeking medical care only when symptoms appear. Financial constraints may prevent individuals from accessing routine health care services, especially in urban slum communities. There are a few people who go for regular health check-ups, and all of these 46% respondents are from urban areas. Elderly people living in urban slums do not go for regular health check-ups due to their bad financial condition, and do not even go to free government dispensary or hospitals due to long waiting time and the possibility of wage/ income loss for the day. However, they continue to take the medicines for the chronic disease like diabetes and hypertension obtained for a longer period in a visit to the free government dispensary or from a chemist that are cheaper generic drugs, which they need regularly.

Current Health Status:

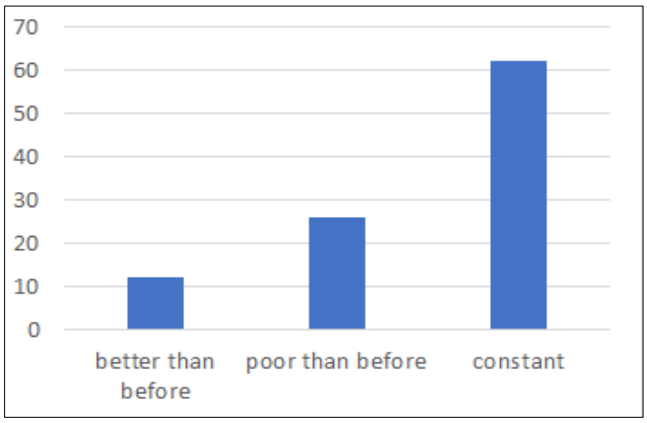

Figure No 11: Current Health Status
Source: Researcher's survey data

Table No11: Current Health Status

Current status	Percentage	Frequency
Better than before	12%	12
Poor than before	26%	26
Moderate/similar	62%	62

Source: Researcher's analysis

Result: When asked about their current health condition in comparison to the past, the answers varied among the 100 participants:

- 12 participants reported that their health has improved compared to earlier situation, largely as a result of better access to treatment and care in hospitals. This is more in urban areas.
- 26 participants stated that they are developing new health-related issues gradually, which affects their overall well-being. They are largely in urban slums areas. The lack of sanitation, cleanliness, and hygiene creates more health issues.
- 62 participants mentioned that their health status remains moderate/ similar; at times they feel stable, while at other times they experience a decline, indicating a fluctuating condition. This is in both urban and urban slum areas.

Interpretation: This implies that elderly individuals regard their health differently according to their medical care, emerging health problems, available medical facilities, surrounding sanitation and cleanliness, and individual resilience. While some benefit from improved healthcare facilities, others continue to face challenges with progressive health issues.

Individuals whose health condition has improved compared to before are more likely to have received treatment from well-equipped hospitals and qualified physicians, and more of them reside in urban areas. They can receive such care through financial support from their children and/or with adequate personal income/ savings derived from their profession.

DISCUSSION

1. The current cross-sectional cum exploratory study adds valuable information about the demographic profile, health status, and wellness practices of elderly participants in urban areas versus urban slum areas. The results underscore how social structure, lifestyle, and access to healthcare collectively influence ageing and well-being. Gender distribution in the study was equal, ensuring balanced representation of both male and female perspectives. (Objective 1,3)
2. Although the sample was evenly divided, the narrative responses suggest differences in lived experiences in education, health awareness, and caregiving roles. Female participants were more engaged in domestic responsibilities, which occasionally affected medication adherence and physical activity patterns, more severely in urban slums than in urban areas (Objective 1,3)
3. Age composition indicated that the majority of respondents (60%) are of the 60–69 age bracket, corresponding to the early elderly age group. Participation declined among older adults, possibly due to limited mobility, greater frailty, or reduced accessibility. This distribution indicates that most participants are entering old age, a period during which prevention and lifestyle practices may have profound effects on later health outcomes. (Objective 1)

4. Educational level was different among males and females. For males, formal education levels tended to be higher (mainly graduated or post-graduate) among male participants, while female participants primarily belonged to primary or no formal education. The gap reflects historical gender inequalities of access to education and may affect health literacy, acceptance of disease care, and patterns of healthcare utilization. For most of the population, the residential distribution was well-balanced between urban and urban slum, giving comparison across socio-economic environments. (Objective 1)
5. Residents of urban slums experienced financial barriers to routine healthcare access, unlike better-resourced urban area, indicating economic limitations are still among the biggest determinants of preventive health practices. Family structure results also show various living relationships. Although most participants lived in small households (fewer than five members), a considerable proportion lived in joint families, and a few lived alone. (Objective 1, 4)
6. Older persons residing alone may be at higher risk of social isolation and limited care support, while those living in joint families receive support with medication adherence, nutrition, and emotional health; with joint family benefits more accessible in urban areas than in urban slums (Objective 1)
7. The disease profile reveals an elevated burden of chronic conditions in the elderly. It was found that a significant share of those living in elderly generations had hypertension, diabetes, and cardiovascular or kidney problems as well, indicating that age-related risk factors increased for these diseases. (Objective 2)
8. Cardiovascular and renal (kidney) diseases particularly ranked high; as priority areas need to focus on in future research and intervention. There appeared to be sensory impairment, thyroid disorders, and mental health issues such as depression underscoring the multi-faceted health issues of ageing. Dietary habits were also mostly favourable and the majority of participants reported keeping their diets in moderation. The ability of adult children in their family to advocate for and take care of the family seemed to be important in ensuring proper nutrition. Diet quality is potentially affected indirectly by economic and financial status and levels of awareness within low-income households, more so in urban slums than in urban areas. (Objective 2, 3)
9. Medication adherence was consistent, thanks to reminders and family assistance. Nonetheless, some elderly women experienced missed doses as household duties necessitated that their duties and work in the home distract from self-care patterns; this problem is mainly seen among the women living in urban slum areas. According to patterns of physical activity, walking was the most common form of physical activity in both men and women, and participation in yoga was conducted by only a handful of men living in urban areas. In many cases, domestic chores became an alternative way for women to participate in physical activity. A small number reported increased sedentary behaviour tied to prolonged mobile phone use, indicating the possibility of lifestyle change among older people. There is still limited preventive healthcare practice, with lower rates in urban slums compared to urban areas. (Objective 3, 4)
10. Over half of the participants visited the doctor when symptoms presented, rather than attending regular health check-ups. Urban slum residents, especially poor people with low income, experience financial limitations and poor accessibility, in contrast to urban residents, making it imperative to support affordable preventive health services and awareness campaigns in the urban slum population. (Objective 4)
11. Current health status was rated highly on scales, with the majority of participants reporting a state of stable but variable health status. Some said their conditions were improving due to better access to medical care, and these people live in urban areas; others said they were sliding increasingly into decay as new conditions emerged. This diversity highlights the intertwining influence of access to health care, chronic diseases, and the persistence of ageing populations, with urban elderly reporting better stability than slum residents. (Objective 2,4)

In sum, the results suggest that the wellness of older adults is influenced both by medical conditions and aspects of education, family support, social, economic, food habits, and lifestyle factors, differing notably between urban areas and urban slums across all objectives. Strengthening preventive and health promotion programs for the elderly, physical activity, health literacy, and social support facilities is also relevant and critical to improving health in old age. Such a study should be directed towards cardiovascular and kidney diseases, which are both common and significant to the elderly population, for future study.

CONCLUSION

Our cross-sectional cum exploratory study reveals the nature of older people, particularly older patients, aged in complex multidimensional ways concerning wellness. There is a substantial gender balance at the sample level. Education, health awareness, and caregiving roles showed significant gaps among them, mostly affecting women, with narrative responses suggesting differences in lived experiences more severely in urban slums than in urban areas. A significant portion of the total demographic sample is generally the early elderly population (aged 60–69), presenting an age window for preventive ageing and health promotion efforts.

According to the study, the family structure and support system is an important factor in the elderly health. For those who lived with family members benefited from better nutrition, medication adherence and emotional care, while those who lived alone were more vulnerable to neglect and social isolation. The authors noted, with joint family benefits are more accessible in urban areas than in urban slums. Poor socioeconomic status, which was particularly true for the

urban slum dwellers, also affected access to regular health care and preventive services, as residents of urban slums experienced financial barriers to routine healthcare access, unlike better resourced urban area. High incidence of chronic diseases like hypertension, diabetes, cardiovascular disease, kidney disease mirrors increasing burden of non-communicable diseases over decades of age. Cardiovascular and renal (kidney) diseases have been identified as major health problems that need targeted medical care and additional research. Sensory deficits, conditions such as thyroid disorders, and mental health problems, also emphasise the importance of thorough geriatric care.

Strikingly, most of participants reported adopting balanced diets and doing some form of physical activity – especially walking. A huge factor in promoting healthy eating habits and adherence to medication was family involvement, but diet quality is potentially affected indirectly by economic status and levels of awareness within low-income households, more so in urban slums than urban areas; some elderly women experienced missed doses as household duties distracted from self-care patterns, this problem is mainly seen among the women living in urban slum area. But inadequate engagement in formal activity and sporadic health check-ups suggest gaps in preventive health behaviour, with lower rates in urban slums compared to urban areas, as over half of the participants visited the doctor when symptoms presented, rather than attending regular health check-ups, and urban slum residents experienced financial limitations and poor accessibility in contrast to urban residents. In general, the research emphasizes how healthy ageing is a combination of medical care, educational, income-based, living-lifestyle actions, and family participation, with current health status rated highly but variable; urban elderly reporting better stability than slum residents.

Health promotion, better access to preventive care, the encouragement of physical behaviour and assistance of the elderly – particularly those in underprivileged backgrounds – will ensure better quality of life. Interventions in the future will need to focus on the management and prevention of cardiovascular and kidney diseases and promote positive environments to ensure the dignity, independence and wellness of the elderly in old age.

Limitations of the Study

One disadvantage of convenience sampling is the inability to generalize findings. The data collection was conducted within a limited timeframe. More objective measures (e.g., clinical evaluation) and probability sampling would help in assuring the validity and generalization of findings in future research. The few suffering from Alzheimer's disease and hearing deficiency were represented and responded to by their relatives. Some elderly persons consulted their family or available local physicians instead of hospitals, where other diagnostic facilities could have been availed simultaneously for better and more careful diagnosis. The elderly people living in urban slums lived alone and could not communicate properly; neighbours assisted the response who knew about them and their health and food/lifestyle habits.

Ethical Considerations

Oral informed consent was obtained from all participants after explaining the study's purpose, self-selected involvement, secrecy, and freedom to withdraw. No inducement was provided to reduce bias. Data were stored without names for privacy, stored safely in terms of numbering the respondents' response sheets as an identifier for analysis, and used specifically for research purposes.

REFERENCES

- Ahmadi S., Streia E., et al. (2015). Reverse Epidemiology of Traditional Cardiovascular Risk Factors in the Geriatric Population, 16(11), p 933-939 accessed at https://www.sciencedirect.com/science/article/abs/pii/S1525861015004934 on July 2025.
- Anushree K. N., Mishra P. S., (2022). "Prevalence of multi-morbidities among older adults in India: Evidence from national Sample Survey organization", 15(8) accessed at https://www.sciencedirect.com/science/article/pii/S2213398422000677 June, 2025.
- Banerjee S., (2021). "Determinants of rural-urban differential in healthcare utilization among the elderly population in India" 21(939) accessed at https://link.springer.com/article/10.1186/s12889-021-10773-1 on may 2025.
- Benetos A., Petrovic M., Strandberg T., (2019) Hypertension Management in Older and Frail Older Patients,124(7) accessed at https://www.ahajournals.org/doi/10.1161/CIRCRESAHA.118.313236 on July, 2025.
- Better health channel (2024). Kidney disease accessed at https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/kidney-disease on December 2025.
- Bhardwaj P. (2026). Prevent a fall save a life: Complication of falls in elderly patients. PSRI Hospital accessed at https://psrihospital.com/prevent-a-fall-save-a-life-complication-of-falls-in-elderly-patients/ on January, 2026.
- Boro B., Banarjee S. (2022). Decomposing the rural-urban gap in the prevalence of undiagnosed, untreated and under-treated hypertension among older adults in India accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC9264707/ on June, 2025.

- Chauhan S., Gupte S. S. (2021) "Urban-rural differential in diabetes and hypertension among elderly in India: A study of prevalence, factors, and treatment-seeking" accessed at https://www.sciencedirect.com/science/article/pii/S1871402121002216 on January, 2026.
- Chentli, Farida, Azzoug, Said, Mahgoun, Souad (2015.) Diabetes mellitus in the elderly, 19(6), p 744-752 accessed at https://journals.lww.com/indjem/fulltext/2015/19060/Diabetes_mellitus_in_elderly.7.aspx on December, 2025.
- Cohen A., Dias A., Azariah F., Krishna R. N., Sequeira M., Abiaham S., et al. (2016) Aging and well-being in Goa, India: a qualitative study, 22(2), 168-174 accessed at https://www.tandfonline.com/doi/full/10.1080/13607863.2016.1236239 on January, 2026.
- Das J., Kundu S., Hossain B. (2023)." Rural-urban difference in meeting the need for healthcare and food among older adults: evidence from India", 23(1231) accessed at https://link.springer.com/article/10.1186/s12889-023-16126-4 on June, 2025.
- Dharamshila Rahat Medical Centre (2022). Care of Dependent Geriatric Patients with Medical Problems at Dharamshila Rahat Medical Centre accessed at https://dharamshilarahat.com/Geriatric-Care.html on march 2025.
- Dinarvard D., Panthakey J., Heidari A., Hassan A., Ahmad M. D. (2024). The Intersection between Frailty, Diabetes, and Hypertension: The Critical Role of Community Geriatricians and Pharmacists in Deprescribing, 14(9), 924 accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC11433409/ on January, 2026.
- Gill- Extremera B., Cia-Gomez P. (2011). Hypertension in the Elderly accessed at https://onlinelibrary.wiley.com/doi/10.1155/2012/859176 on December, 2025.
- Gupta H. L, Yadav M.., Sundarka M. K., Talwar V., Saini M., Garg P. (2002). A study of prevalence of health problems in asymptomatic elderly individuals in Delhi, accessed at https://pubmed.ncbi.nlm.nih.gov/12240844 on August, 2025.
- Hamilton K., Milne A., Hotham S. (2020) New horizons in supporting older people's health and wellbeing: is social prescribing a way forward?, 49(3) 319-326 accessed at https://academic.oup.com/ageing/article/49/3/319/5741787?login=false on May, 2025.
- Jia L., Du Y., et al. (2020). Prevalence, risk factors, and management of dementia and mild cognitive impairment in adults aged 60 years or older in China: a cross-sectional study 5(12), e628 accessed at https://www.sciencedirect.com/science/article/pii/S2468266720301857 on October, 2025.
- Khan K. S., Hunz R., Kleijen J., Antes G. (2002). Five steps to conducting a systematic review, 96(3),118–121 accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC539417/ on January, 2026.
- Khan M. R., Malik M.A., Akhtar S. N., Yadav S. Patel R. (2022). Multimorbidity and its associated risk factors among older adults in India, 22, 746 accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC9008964/ on December 2025.
- Kumar S., Chauhan S., Patel R., Kumar M., Simon D. J. (2023). "Urban-rural and gender differential in depressive symptoms among elderly in India", 2(8) accessed at https://www.sciencedirect.com/science/article/pii/S2772653323000187 on April, 2025.
- Longitudinal Ageing Study in India (LASI) (2020). An Investigation of Health, Economic, and Social Well-being of India's Growing Elderly Population accessed at https://www.iipsindia.ac.in/sites/default/files/LASI_India_Report_2020_compressed.pdf 5 on October, 2025.
- McKenzie J. E., Bossuyl P. M., Boutron I., Hoffmann T. C., et al. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews accessed at https://www.bmj.com/content/372/bmj.n71 on February, 2026.
- Mohanty S.K, Sahoo U., Rashm R. (2022). Old-age dependency and 37(6), 3148-3171 accessed at https://pubmed.ncbi.nlm.nih.gov/35929614/ on June, 2025.
- Panda P., Dash P., Behera M., Mishra T., (2023). Prevalence of depression among elderly women in India-An intersectional analysis of the Longitudinal Ageing Study in India (LASI), 2017-2018 accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC10055648/ on March, 2025.
- Petronella J, Veer-Tazelaar V., et al. (2008). Depression in old age (75+), the PIKO study, 106(3), 295-299 accessed at https://www.sciencedirect.com/science/article/abs/pii/S016503270700256X on November, 2025.
- Prabhakar T., Goel M. K., Acharya A. S., Rasania S. K. (2021). Prevalence and pattern of non-communicable diseases among elderly in a sub-urban area of Delhi 33(7) accessed at https://www.iapsmupuk.org/journal/index.php/IJCH/article/view/1996 on May, 2025.
- Qu C., Liao S., Zhang j., Cao H., Zhang H., Zhang N., et al (2024). Burden of cardiovascular disease among elderly: based on the Global Burden of Disease Study 2019, 10(2), 143-153 accessed at https://academic.oup.com/ehjqcco/article/10/2/143/7193370?login=false on August, 2025.
- Rashedi V., IranpourA., (2019). Risk factors for fall in elderly with diabetes mellitus type 2 accessed at https://surl.lu/wluvlz on August 2025.
- Silva R. D. K., Carvalho K. M. D. (2019). Health promotion of frail elderly individuals and at risk of frailty accessed at https://www.scielo.br/j/reben/a/DJ4tM9sxdRgHntNFwjLvpfG/?lang=en on December, 2025.
- Sinclair A., Saeedi P., Kundhan A., Karuranga S., Malandar R., Williams R. (2020). Diabetes and global ageing among 65-99-year-old adults: Findings from the International Diabetes Federation Diabetes Atlas, 162(9) accessed at https://www.diabetesresearchclinicalpractice.com/article/S0168-8227(20)30137-6/abstract on January, 2026.

- Sri Balaji Action medical institute (2026). Geriatric clinic, accessed at https://www.actionhospital.in/speciality/geriatric-clinic on February, 2026.
- Steptoe A., Deaton A., Stone A. A., (2014). Subjective wellbeing, health, and ageing accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC4339610/ on May, 2025.
- UNC Health science library (2025). Creating a PRISMA flow diagram: PRISMA 2020, accessed at https://guides.lib.unc.edu/prisma on January, 2025.
- Victor C. R.., Scambler S. J. (2005).The prevalence of, and risk factors for, loneliness in later life: a survey of older people in Great Britain accessed at https://discovery.ucl.ac.uk/id/eprint/1639/1/cambridgeUP.pdf on August, 2025.
- Watanabe D., Kurotanji K.,Yoshida T., Nanni H., Watanabe Y., Date H., et al. (2022). Diet quality and physical or comprehensive frailty among older adults 61(5),2451–2462 accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC8852878/ on April, 2025)
- Weitz A., Mukhopadhyay B., Das K., (2022). Individually experienced heat stress among elderly residents of an urban slum and rural village in India, 66 1145-1162 accessed at https://link.springer.com/article/10.1007/s00484-022-02264-8 on July, 2025.
- Well Me Right (2024). Elderly wellness programs, accessed at https://www.wellmeright.com/glossary/elderly-wellness-programs on November, 2025.
- Yang S., Liu L., Wang C., Lo K., Wang D. (2023). Elderly people's preferences for healthcare facilities in Shanghai: gender features and influencing factor analysis accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC9936711/ on December, 2025.
- Yarnall A. J., Sayer A.A. Clegg A., Rockwood K., Parker S., Hindle J. V. (2019). New horizons in multi-morbidity in older adults,46(6),882–888 accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC5860018/ on January 2026.
- Yazdanyar A. & Newman A. B. (2009). The Burden of Cardiovascular Disease in the Elderly: Morbidity, Mortality, and Costs, 25(4),563 accessed at https://pmc.ncbi.nlm.nih.gov/articles/PMC2797320/ on November, 2025.
- Zenebe Y., Akele B., et al. (2021). Prevalence and determinants of depression among old age: a systematic review and meta-analysis accessed at https://link.springer.com/content/pdf/10.1186/s12991-021-00375-x.pdf on November, 2025.