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Research Article

MORBIDITY PROFILE OF ELDERLY POPULATION IN AN URBAN FIELD PRACTICE AREA

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ABSTRACT

Background: With advancing age, Indian urban populations are increasingly challenged by a complex burden of chronic diseases and functional decline. Understanding morbidity patterns is essential for planning geriatric health services. **Objectives:** To study the socio-demographic characteristics and morbidity profile of elderly individuals (≥65 years) in an urban field practice area, and to compare morbidity across key socio-demographic determinants. **Materials and Methods:** A community-based cross-sectional study was conducted among 374 elderly residents of an urban field practice area. Stratified random sampling was used. Data were collected via house-to-house interviews, clinical examination, and validated screening scales for depression, ADL, and cognition. **Results:** The mean age was 70.1 years (56% male). The most prevalent morbidities were dental disorders (93%), visual impairment (87%), and musculoskeletal disorders (65%). Functional independence for basic daily activities was observed in 89%, while 19.5% had depression and 13.9% showed cognitive impairment. Arthritis, visual impairment, depression, and hypertension were significantly more common among women. Most elderly were illiterate (75%) and economically dependent (74%). **Conclusions:** Multimorbidity, dominated by dental, visual, and musculoskeletal issues, is highly prevalent among the elderly in urban India. High rates of economic dependency and functional challenges highlight the need for comprehensive geriatric assessment and health promotion programs integrated into urban primary health care.

Keywords: Elderly morbidity. Multimorbidity. Urban India.

INTRODUCTION

The phenomenon of population ageing has emerged as a defining demographic trend of the 21st century, bringing both opportunities and challenges for societies globally. Ageing is a complex, natural biological and physiological process characterized by progressive degeneration of organs and tissues, often divorced from strict chronological aging due to ethnic, racial, and genetic differences. In India, this demographic shift is profound: the proportion of the population aged 60 and above has increased steadily, rising from 5.6% in 1951 to 8.25% in 2011, and with elderly persons now surpassing 100 million. Improvements in health services, socioeconomic conditions, nutrition, and disease management have

contributed to increased longevity, illustrated by greater life expectancy among both Indian men and women.[1]

While the dream to live longer is now attainable for many, it brings forth challenges related to the social, economic, and physical well-being of the elderly. Diminishing traditional family structures, economic dependency, urbanization, and changing patterns of morbidity have heightened the vulnerabilities faced by the elderly population, most of whom belong to unorganized sectors, reside in rural areas, are below the poverty line, or lack formal education. The confluence of communicable and non-communicable diseases, combined with degenerative changes, increases the burden of health conditions such as musculoskeletal disorders, sensory impairment, cardiovascular disease, diabetes, and mental health issues, notably depression and cognitive impairment. These morbidities are often multifactorial, longer in duration, and more severe among the aged, exacerbated by social isolation and reduced access to medical care.[2][3]

Epidemiological studies have demonstrated that the prevalence and pattern of morbidities among the elderly vary with sociodemographic factors such as age, gender, education, economic status, and family structure. Females, in particular, are at higher risk of illiteracy, economic dependence, and chronic health problems. Urbanization and the rise in nuclear families have eroded traditional support mechanisms, compounding loneliness and psychological distress among the elderly. The World Health Organization (WHO) underscores the necessity of understanding the health status of the elderly to devise interventions that can improve quality of life and reduce disease burden. The National policies in India reflect these priorities, encouraging research and targeted programs addressing the unique needs of the elderly population.[4][5]

Aim

To assess the morbidity profile of the elderly population aged 65 years and above in an urban field practice area.

Objectives

- To study the socio-demographic profile of the study group.
- To determine the pattern of morbidity among the elderly population.
- To compare morbidity patterns across various socio-demographic determinants.

MATERIALS AND METHODOLOGY

Source of Data

Data were sourced from all individuals aged 65 years and above residing, identified using the official electoral list available from the municipal election office.

Study Design

The study was designed as a community-based, cross-sectional observational survey within a defined urban field practice area.

Study Location

The research was conducted in the urban field practice area.

Sample Size

A sample of 374 elderly individuals aged 65 years and above was determined based on an anticipated morbidity prevalence of 42%, with a 5% significance level and 95% confidence interval, using Epi Info 7 software.

Inclusion Criteria

- Individuals aged 65 years and above.
- Permanent residents of the study area.
- Provided informed consent for participation.

Exclusion Criteria

- Temporary migrants or those unavailable at the time of the survey.
- Residents of houses permanently locked or whose families transferred residence.
- Individuals not contactable after three successive home visits.

Procedure and Methodology

Eligible subjects were identified and selected through stratified random sampling, with strata based on gender to ensure proportional representation aligned with the local demographic profile. Random selection was executed using random number tables applied separately for males and females. The investigator, with support from a Medical Social Worker (MSW), conducted home visits to approach, recruit, and administer study tools to the participants.

A structured and pre-tested proforma was utilized, collecting comprehensive information on sociodemographic characteristics, detailed health history, present complaints, comorbidities, and lifestyle factors (such as tobacco/alcohol use). Physical and clinical examinations were conducted, including anthropometric measurements (height, weight), blood pressure monitoring (measured thrice with the lowest value recorded), and system-wise clinical assessments using standard procedural guidelines.

Sample Processing

Clinical evaluations (general and systemic) were complemented by validated instruments:

- Geriatric Depression Scale (Short Form, GDS-15) for depression screening.
- Barthel Index for assessment of activities of daily living (ADL).
- Mini-Mental State Examination (MMSE) for cognitive impairment.

Wherever available, diagnoses were cross-validated using existing health records; otherwise, diagnoses were established based on history and clinical examination. Subjects found with treatable conditions during the study were referred to specialist outpatient clinics at the Urban Health Training Center.

Statistical Methods

Data were analyzed using Epi Info 7 software. Morbidity and categorical variables were summarized using percentages. Chi-square tests were applied to examine the association between categorical variables and morbidity patterns. P values less than or equal to 0.05 were considered statistically significant.

Data Collection

Data were collected directly via home interviews during defined time slots in the morning (10:00 am to 12:30 pm) and evening (5:00 pm to 7:30 pm). The investigator conducted all interviews and physical/clinical assessments personally, maintaining consistency in data collection. The finalized, pilot-tested proforma was used for all study subjects, with annexures including standard assessment scales.

OBSERVATION AND RESULTS

Table 1: Overall Morbidity Profile of the Elderly (n=374)

Variable	n(%) or Mean(SD)
Age (years), Mean (SD)	70.1 (SD not stated)
Male	210 (56%)
Female	164 (44%)
BMI Normal	190 (51%)
BMI Overweight/Obese	120 (32%)
BMI Underweight	64 (17%)
Independent for ADL	334 (89%)
Dependent for ADL	40 (11%)
No Depression	301 (80.5%)
Depression (any)	73 (19.5%)

No Cognitive Impairment	322 (86.1%)
Cognitive Impairment (any)	52 (13.9%)

In table 1, the overall morbidity profile of the elderly population (n=374) in the urban field practice area reflects an average age of 70.1 years, with males comprising 56% and females 44% of the sample. Most participants had a normal body mass index (51%), while 32% were overweight or obese and 17% were underweight. Functional independence was high, as 89% were able to perform activities of daily living on their own, and only 11% required some level of assistance. With respect to mental health, 19.5% of the elderly experienced some form of depression, and 13.9% had some degree of cognitive impairment, while the majority remained free from these conditions.

Table 2: Socio-Demographic Profile (n=374)

Variable	**n(%) or Mean(SD)**
Mean Age (years)	70.1
Male	210 (56%)
Female	164 (44%)
Marital status: Married	Not stated
Marital status: Widowed	Not stated
Religion: Hindu	269 (72%)
Religion: Muslim	59 (16%)
Religion: Buddhist	46 (12%)
Illiterate	280 (75%)
Literate	94 (25%)
Type of Family: Joint	171 (46%)
Type of Family: 3-gen	137 (36%)
Type of Family: Nuclear	66 (18%)
Socioeconomic class I	18 (5%)
Socioeconomic class II	59 (16%)
Socioeconomic class III	153 (41%)
Socioeconomic class IV	135 (36%)
Socioeconomic class V	9 (2%)
Economically Dependent	277 (74%)
Economically Independent	97 (26%)

Socio-demographically in table 2, the mean age remained at 70.1 years with a predominance of male subjects. Hinduism was the most prevalent religion (72%), followed by Islam (16%) and Buddhism (12%). A large majority (75%) were illiterate, and joint family structures were most common (46%), with three-generation families and nuclear families accounting for 36% and 18% respectively. Socioeconomic status varied, but most were in class III (41%) or IV (36%), and only small proportions were in the highest (5%) or lowest (2%) classes. Economic dependency was strikingly high, with 74% dependent on others for their financial needs.

Table 3: Morbidity Pattern Among Elderly (n=374)

Disorder	**n (%)**
Dental disorders	347 (93%)
Visual disorders	325 (87%)
Musculoskeletal disorders	243 (65%)
GIT disorders	149 (40%)
CVS disorders	127 (34%)
Respiratory disorders	63 (17%)

Hearing disorders	56 (15%)
CNS disorders	37 (10%)
Genitourinary disorders	37 (10%)

For table 3, Regarding the specific morbidity pattern, dental disorders emerged as the most common issue affecting 93% of participants, followed closely by visual disorders (87%) and musculoskeletal problems (65%). Gastrointestinal issues (40%), cardiovascular diseases (34%), respiratory problems (17%), hearing disorders (15%), and both central nervous system and genitourinary disorders (each 10%) were also prominent, underscoring a significant burden of multi-morbidity in this elderly population.

Table 4: Morbidity Stratified by Key Socio-Demographic Determinants

Variable	n(%)	χ^2/P
Arthritis Male	109 (52%)	23.44/<0.001
Arthritis Female	126 (77%)	23.44/<0.001
Depression Male	31 (15%)	6.225/0.013
Depression Female	42 (26%)	6.225/0.013
Hypertension Male	43 (20%)	4.97/0.02
Hypertension Female	51 (31%)	4.97/0.02
Diabetes Male	18 (9%)	2.27/0.13
Diabetes Female	23 (14%)	2.27/0.13
Visual Impairment Male	110 (52%)	35.21/<0.001
Visual Impairment Female	135 (82%)	35.21/<0.001

When analyzing morbidity by key socio-demographic factors in table 4, the data showed that females had significantly higher rates of arthritis (77% vs. 52%, p<0.001), depression (26% vs. 15%, p=0.013), hypertension (31% vs. 20%, p=0.02), and visual impairment (82% vs. 52%, p<0.001) compared to males. The differences in diabetes prevalence by gender were not statistically significant. These findings highlight greater vulnerabilities among elderly women for several major chronic conditions, with statistically significant gender disparities for most conditions except diabetes.

DISCUSSION

Overall Morbidity and Functional Profile: The mean age of the study cohort was 70.1 years, with 56% being males and 44% females. Most participants had a normal BMI (51%), but overweight/obesity (32%) and underweight (17%) were both notable. The majority (89%) maintained independence in basic activities of daily living (ADL), with only 11% dependent, which aligns with other Indian studies reporting functional independence rates between 60% and 90%. Cognitive impairment was present in 13.9%, similar to rates reported by Mandal N *et al.*(2024)[6] (19%), and depression was observed in 19.5%, which matches the 19–21% range from studies, though some report higher rates (up to 52%).

Socio-Demographic Profile: A large proportion of the elderly were illiterate (75%), mirroring findings from Jayabalan J *et al.*(2024)[7] (79%) and Kummari SK *et al.*(2024)[8] (82%), though some studies report lower illiteracy, especially in urban areas. Most belonged to joint or three-generation households (46% and 36% respectively), rather than nuclear families, which contrasts with metropolitan studies showing a shift toward more nuclear households. Socioeconomically, the majority were from class III (41%) and IV (36%), similar to distributions seen in studies by Samanta T *et al.*(2024)[9] (69% in classes III–IV) and Sivakumar D *et al.*(2025)[10] Economic dependence among the elderly (74%) remains high and is particularly marked among women, echoing patterns observed elsewhere in India.

Morbidity Patterns: Dental disorders (93%), visual impairment (87%), and musculoskeletal issues (65%, primarily arthritis) were the leading morbidities, a pattern also observed in studies

from Chandigarh and Tamil Nadu. The high prevalence of dental problems is confirmed by Gokhale D *et al.*(2024)[11] in Delhi (91%) and Swain CS *et al.*(2024)[12] (41%), supporting the assertion that oral health is an often unmet need in this population. Cardiovascular, gastrointestinal, hearing, and CNS morbidities were also common, reinforcing the characterization of the Indian elderly as facing a double burden of chronic, often co-existing conditions.

Gender Differences and Stratified Morbidity: Females in this study had significantly higher rates of arthritis (77% vs. 52%), visual impairment (82% vs. 52%), depression (26% vs. 15%), and hypertension (31% vs. 20%), consistent with Telkar A *et al.*(2024)[13] and Gupta K *et al.*(2025)[14] Such gender disparities are well-documented, with post-menopausal osteoporosis and arthritis, as well as social/familial vulnerability, contributing factors. However, comparisons of diabetes prevalence between males (9%) and females (14%) were not statistically significant, as has been found in several urban studies where lifestyle factors are more evenly distributed.

CONCLUSION

The present study highlights a high burden of multiple morbidities among the elderly population in an urban field practice area. Dental disorders, visual impairment, and musculoskeletal conditions-particularly arthritis-emerged as the most prevalent health problems, often coexisting in individuals. Functional independence for activities of daily living was retained by the majority, yet nearly one out of five exhibited depression, and one in seven had cognitive impairment. Socioeconomic vulnerability, high rates of illiteracy, and significant economic dependence-especially among elderly women-further compound geriatric health challenges. These findings underscore the need for comprehensive, gender-sensitive, and community-based geriatric health services to address both medical and psychosocial needs in urban Indian settings.

LIMITATIONS

- Morbidities were primarily provisionally diagnosed; confirmation by specialist evaluation and higher-level investigations was often not feasible due to resource constraints.
- The age of study participants was ascertained from the electoral/voters list, which may have introduced some misclassification in the selection of subjects.
- Specialized laboratory investigations, imaging, and advanced diagnostic procedures such as blood tests, urine analysis, and ECG were not conducted, potentially limiting the accuracy of morbidity assessment.
- The cross-sectional design cannot establish causality and may underestimate the burden of conditions with fluctuating or episodic presentations.

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