International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Prevalence of Common Health Conditions and Social Problems Among the Geriatric Population in Rural Barabanki District, Uttar Pradesh: A Community-Based Cross-Sectional Study

Dr. Shifa Siddiqui[1], Prof. Dr. Meenakshi Singh[2], Bhupesh Kumar Kohri[3]

[1]Junior Resident, Community Medicine, Hind Institute Of Medical Sciences, Barabanki
[2]Head Of Department, Community Medicine, Hind Institute Of Medical Sciences, Barabanki
[3]Professor, Community Medicine, Hind Institute Of Medical Sciences, Barabanki

ABSTRACT

Background: Population ageing is a growing public health challenge in rural India. Elderly individuals residing in rural areas are disproportionately vulnerable to chronic non-communicable diseases, functional decline, and socioeconomic disadvantages. District-level evidence from Uttar Pradesh on the morbidity profile and social problems of the geriatric population remains limited. The present study was undertaken to determine the prevalence of common health conditions, identify socio-demographic factors associated with these conditions, and assess the burden of social problems among the rural elderly of Barabanki district.

Methods: A community-based cross-sectional study was conducted among 110 elderly individuals aged ≥60 years, selected by multistage random sampling from five villages of Barabanki district. Data were collected through house-to-house surveys using a pre-tested, semi-structured questionnaire covering socio-demographic characteristics, self-reported morbidities verified against medical records, functional status (ADL score), and social security indicators. Associations between socio-demographic variables and morbidities were assessed using the chi-square test ($p<0.05$ considered significant).

Results: The majority of participants (69.1%) were in the 60–74 years age group and females constituted 63.6%. Illiteracy was high (40.9%) and 50.9% belonged to the lower-middle socioeconomic class. Hypertension (37.3%) was the most prevalent morbidity, followed by diabetes mellitus (35.5%), arthritis (33.6%), dental problems (30.9%), cardiovascular disease (24.5%), and respiratory illness (16.4%). Morbidity burden increased significantly with advancing age ($p<0.05$). Cardiovascular disease was significantly more prevalent among males ($p=0.049$). Social problems were pervasive: financial deprivation (74.5%), poverty (38.2%), family neglect (23.6%), and absence of health insurance (80.9%) were the predominant concerns.

Conclusion: The rural elderly of Barabanki district carry a high burden of chronic morbidities closely linked to advancing age and socioeconomic deprivation, compounded by significant social vulnerability. Strengthening geriatric screening within primary healthcare, expanding social security coverage, and improving family and community support systems are urgently needed.

Keywords: Geriatric; Elderly; Morbidity Prevalence; Social Problems; Socio-demographic Factors; Cross-Sectional Study; Rural India; Barabanki; Uttar Pradesh

INTRODUCTION

Population ageing represents one of the most significant demographic transitions of the twenty-first century. According to the World Health Organization (WHO), the number of people aged 60 years and older is expected to double from approximately 1 billion in 2020 to 2.1 billion by 2050 [1]. In low- and middle-income countries (LMICs), this shift is occurring more rapidly and within a context of inadequate healthcare infrastructure, limited social security coverage, and persistent socioeconomic inequality.

India is undergoing a rapid demographic transition. Currently, the geriatric population (aged ≥60 years) constitutes approximately 7.7% of the total population, with projections indicating a steady increase in the coming decades. Notably, nearly two-thirds of India's elderly population resides in rural areas, highlighting the importance of rural health systems in geriatric care [2]. Rural elderly populations face compounded vulnerabilities due to poverty, illiteracy, dependence on traditional family support systems, limited access to healthcare services, and high burden of chronic non-communicable diseases (NCDs).

Ageing is associated with a progressive rise in chronic morbidity, disability, and functional impairment. Studies consistently demonstrate a higher prevalence of NCDs — including cardiovascular diseases, hypertension, diabetes mellitus, chronic respiratory diseases, musculoskeletal disorders, and mental health conditions — among older adults [3-4]. The Longitudinal Ageing Study of India (LASI) 2021 reported that 75% of elderly individuals have at least one chronic disease, 24% experience at least one limitation in Activities of Daily Living (ADL), and 48% report limitations in Instrumental Activities of Daily Living (IADL) [5].

Economic vulnerability is a major determinant of health in old age. Withdrawal from the labour force leads to income loss, reduced savings, and increased dependency. Data indicate that only 18% of elderly individuals are covered by any form of health insurance, and approximately 78% live without pension coverage [6-7]. Urbanisation, migration of younger adults, and the shift from joint to nuclear family structures have weakened familial caregiving mechanisms, further compounding the challenges faced by rural elderly populations.

Barabanki district in Uttar Pradesh represents a predominantly rural setting undergoing such transitions. Limited district-level data exist on the prevalence of health conditions, addiction patterns, and healthcare utilisation among the geriatric population. Generating such evidence is essential for informed planning, targeted interventions, and effective implementation of existing geriatric welfare policies. The present study was therefore undertaken to assess the health and social problems of the geriatric population in rural areas of Barabanki district and to examine their association with socio-demographic characteristics, addictive habits, and healthcare utilisation patterns.

The present study was therefore conducted with the following primary objectives:

1. To determine the prevalence of common health conditions among the geriatric population.
2. To assess the prevalence of social problems among the geriatric population.

MATERIALS AND METHODS

Study Design and Setting

A community-based cross-sectional study was conducted in the field practice area of the Rural Health Training Centre (RHTC), Department of Community Medicine, Hind Institute of Medical Sciences

(HIMS), Safedabad, Barabanki, UP, India. The study was conducted from September 2024 to February 2026, following prior approval from the HIMS Institutional Human Ethics Committee (IHEC).

Sample Size and Sampling Technique

Sample size was calculated using Cochran's formula, based on an estimated morbidity prevalence of 76.9% [8], 95% confidence level, and 8% margin of error, yielding a minimum sample of 107; rounded up to 110. A multistage random sampling technique was employed. One block (Harakh or Banki) was selected by lottery from two blocks in the RHTC catchment area. Five villages were randomly selected from the nine villages in the chosen block. From each village, 22 eligible elderly individuals were enrolled, totalling 110 participants.

Inclusion and Exclusion Criteria

Inclusion criteria:

1. Elderly individuals aged ≥60 years of either sex.
2. Residents of the study area for at least one year.
3. Those providing written informed consent.

Exclusion criteria:

1. Critically ill individuals unable to participate in the interview.
2. Those unwilling to provide informed consent.

Data Collection Tools and Variables

Data were collected through house-to-house surveys using a pre-tested, semi-structured questionnaire administered.The instrument assessed: (i) socio-demographic characteristics — age, gender, education, employment, living arrangement, family type, and marital status; (ii) socioeconomic status using the Modified B.G. Prasad Scale (2025 update); (iii) morbidity profile through self-reported illnesses verified against available medical records and prescriptions; (iv) functional health status using the Activities of Daily Living (ADL) score; and (v) social problems including financial deprivation, family neglect, social isolation, and social security coverage. Multimorbidity was defined as the co-occurrence of two or more chronic conditions.

Statistical Analysis

Data were entered in Microsoft Excel 2019 and analysed using IBM SPSS Statistics Version 26. Descriptive statistics — frequencies and percentages — were computed for all socio-demographic and health variables. Chi-square (χ^2) test was used to determine statistically significant associations between categorical variables including age group, gender, and socioeconomic class with morbidity outcomes. A p-value of <0.05 was considered statistically significant.

RESULTS

A total of 110 elderly individuals participated in the study with a 100% response rate.

Prevalence of Morbidities

Table 1 present the complete morbidity profile. Hypertension was the most prevalent condition (37.3%), followed by diabetes mellitus (35.5%), arthritis (33.6%), dental problems (30.9%), visual impairment (26.4%), cardiovascular disease (24.5%), skin diseases (19.1%), and respiratory illness (16.4%). Malignancy was the least prevalent (1.8%). Overall, the majority of participants had at least one chronic condition, and multimorbidity (≥2 conditions) was common, particularly in the older age groups.

Table 1. Prevalence of Morbidities and Social Problems among Study Participants (n=110)

Variables	Frequency (n)	Percentage (%)
Hypertension	41	37.27
Diabetes Mellitus	39	35.45
Arthritis	37	33.64
Dental Problems	34	30.91
Visual Impairment	29	26.36
Cardiovascular Disease	27	24.55
Skin Diseases	21	19.09
Respiratory Illness	18	16.36
Hearing Loss	15	13.64
Gastrointestinal Disorders	14	12.73
Genitourinary Disorders	13	11.82
Neurological Problems	8	7.27
Malignancy	2	1.82

Association of Morbidity with Age Group

Table 2 presents the age-stratified distribution of selected morbidities. All major morbidities showed a statistically significant increase with advancing age ($p<0.05$). Hypertension was present in 30.3% of the 60–74 years group, rising steeply to 80.0% in the ≥85 years group ($p=0.004$). Similarly, cardiovascular disease prevalence rose from 17.1% in the young-old to 60.0% in the oldest-old ($p=0.003$). Respiratory illness showed the sharpest age gradient, increasing from 10.5% in the youngest group to 50.0% in those aged ≥85 years ($p=0.002$).

Table 2. Age-Wise Distribution of Selected Morbidities (n=110)

Morbidity	60–74 yrs n(%)	75–84 yrs n(%)	≥85 yrs n(%)	p-value
Hypertension	23 (30.3)	10 (41.7)	8 (80.0)	0.004*
Diabetes Mellitus	22 (28.9)	11 (45.8)	6 (60.0)	0.021*
Arthritis	20 (26.3)	11 (45.8)	6 (60.0)	0.018*
CVD	13 (17.1)	8 (33.3)	6 (60.0)	0.003*
Respiratory Illness	8 (10.5)	5 (20.8)	5 (50.0)	0.002*

*Statistically significant (chi-square test, $p<0.05$).

Association of Morbidity with Gender

Table 3 presents the gender-stratified morbidity analysis. Cardiovascular disease was significantly more prevalent among males (35.0%) compared to females (18.6%) ($p=0.049$). Arthritis and hypertension were numerically more common among females, though these differences did not reach statistical significance. Respiratory illness was more prevalent among males (25.0%) compared to females (11.4%), approaching but not crossing the significance threshold ($p=0.051$). Figure 5 illustrates gender differences in morbidity distribution.

Table 3. Gender-Wise Distribution of Selected Morbidities (n=110)

Morbidity	Male n=40 (%)	Female n=70 (%)	p-value
Hypertension	13 (32.5)	28 (40.0)	0.437
Diabetes Mellitus	13 (32.5)	26 (37.1)	0.635
Arthritis	11 (27.5)	26 (37.1)	0.296
Cardiovascular Disease	14 (35.0)	13 (18.6)	0.049*
Respiratory Illness	10 (25.0)	8 (11.4)	0.051
Visual Impairment	12 (30.0)	17 (24.3)	0.508

*Statistically significant (chi-square test, $p<0.05$).

Prevalence of Social Problems

Figure 1 present the social problem profile. Financial deprivation was the most prevalent social problem (74.5%), followed by absence of health insurance coverage (80.9%) and no pension or social security (79.1%). Poverty (below poverty line) was reported by 38.2%, dependence on family for finances by 33.6%, family neglect or inadequate care by 23.6%, and living alone (social isolation) by 19.1%. These findings indicate a pervasive pattern of socioeconomic vulnerability within this rural geriatric population.

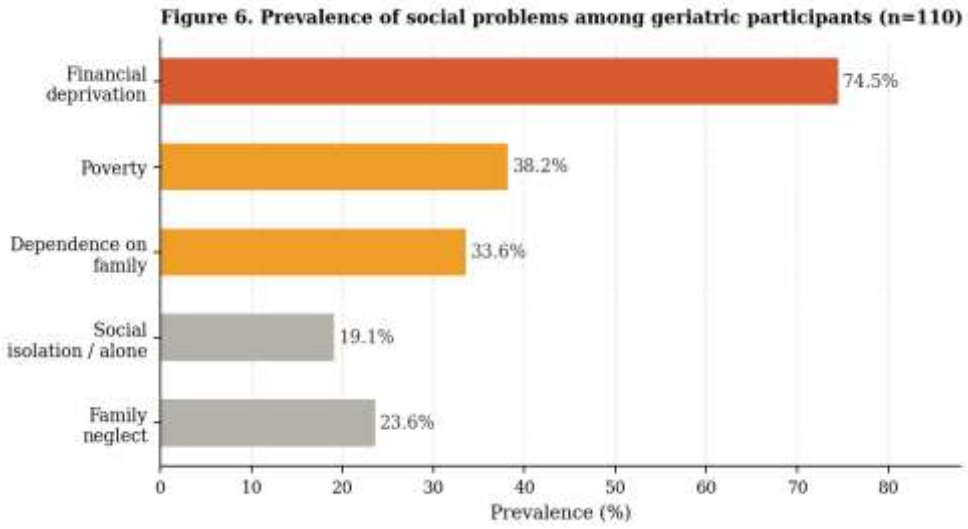

Figure 1. Prevalence of social problems among geriatric study participants, Barabanki district (n=110)

5. DISCUSSION

The present study assessed the prevalence of common health conditions, their association with socio-demographic factors, and the burden of social problems among the rural geriatric population of Barabanki district. The findings are discussed in the context of existing national and international evidence.

In the present study the Hypertension was the most prevalent morbidity (37.3%), which is consistent with findings from Noone C. and Yang K. (2022) from North Kerala and Lee JML et al. (2021) from Varanasi. The lower prevalence compared to some urban studies may reflect methodological differences in case ascertainment. Diabetes mellitus (35.5%) and arthritis (33.6%) prevalence are comparable to rates reported from similar community-based studies in rural Uttar Pradesh [Aliyas Z., 2020]. Visual impairment (26.4%) and dental problems (30.9%) highlight sensory and oral health neglect — areas often overlooked

in geriatric care planning in rural settings. The overall morbidity pattern is broadly consistent with LASI 2021 data, which reported that 75% of Indian elderly have at least one chronic condition [26].

The significant association between morbidity and advancing age ($p<0.05$ for all major conditions) is consistent with global evidence on multimorbidity accumulation in later life [Armstead TL and Wilkins N, 2018]. The steepest age gradients were observed for cardiovascular disease and respiratory illness, which rose sharply in the oldest-old — findings that align with the physiological deterioration of cardiovascular and pulmonary systems with age. Gender differences in morbidity profile, with cardiovascular disease significantly more prevalent among males ($p=0.049$) and arthritis and hypertension numerically higher among females, reflect differential health behaviours, occupational exposures, and healthcare utilisation patterns previously documented in national LASI data. The disproportionate burden of musculoskeletal conditions among females may also be attributed to post-menopausal bone density loss and heavier domestic workloads in rural settings.

This current study demonstrate the Financial deprivation (74.5%), near-universal absence of health insurance (80.9%), and lack of pension coverage (79.1%) underscore the profound socioeconomic insecurity of this rural geriatric population. These findings align with LASI 2021 national data, which reported that only 18% of elderly Indians have any health insurance and approximately 78% lack pension coverage [26]. The high prevalence of family neglect (23.6%) and social isolation — reflected by 19.1% living alone — is particularly concerning given the traditional dependence of rural elderly on familial support systems. These structural social vulnerabilities not only affect quality of life directly but also act as upstream determinants of health-seeking behaviour and morbidity management.

Strengths and Limitations

The study demonstrates several methodological strengths. The use of a community-based design with multistage random sampling enhances the representativeness of the rural geriatric population. Additionally, the clearly focused primary objective enables an in-depth and methodologically coherent analysis of morbidity prevalence and social vulnerability. The verification of morbidities through medical records helps minimize self-report bias, thereby improving data reliability. Furthermore, gender- and age-stratified analyses offer valuable and actionable epidemiological insights for targeted interventions.

However, certain limitations must be considered while interpreting the findings. The cross-sectional design restricts the ability to establish causal relationships between socio-demographic factors and morbidity. The relatively small sample size ($n=110$) may limit the generalizability of the results beyond the RHTC catchment area. Although efforts were made to verify data, some degree of recall bias in self-reported morbidity cannot be entirely excluded. Lastly, the absence of multivariable regression analysis limits the ability to control for potential confounding factors.

CONCLUSION AND RECOMMENDATIONS

The rural elderly population of Barabanki district bears a substantial burden of chronic non-communicable diseases — particularly hypertension, diabetes mellitus, arthritis, and cardiovascular disease — with morbidity increasing significantly with advancing age. Cardiovascular disease disproportionately affects males, while musculoskeletal conditions are more prevalent among females. Social vulnerability is pervasive, characterised by near-universal financial insecurity, limited social protection, and prevalent family neglect and isolation.

These findings underscore the urgent need for evidence-based, age-integrated geriatric care within the primary healthcare system. Targeted interventions must address both the clinical burden of chronic disease and the social determinants that perpetuate poor health outcomes in this population.

Recommendations:

It is recommended to integrate routine and comprehensive geriatric health screening into primary healthcare services, with particular emphasis on the early detection and management of common conditions such as hypertension, diabetes, cardiovascular diseases, and musculoskeletal disorders. There is also a need to develop gender-specific geriatric care protocols, focusing on cardiovascular disease surveillance among elderly males and promoting musculoskeletal and joint health programmes for elderly females. Expanding universal health coverage and strengthening social protection measures, including health insurance and pension schemes, is essential for improving the wellbeing of rural elderly populations under the National Programme for Health Care of the Elderly. Additionally, efforts should be made to enhance family counselling and community-based support systems to address issues such as family neglect, loneliness, and unsafe living conditions among the elderly.

COI: None declared
Financial Support: None

REFERENCES

1. Centers for Disease Control and Prevention. NCHHSTP social determinants of health. Atlanta (GA): CDC; 2022.
2. World Health Organization. World report on ageing and health. Geneva: WHO; 2015.
3. Castelli R, Schiavon R, Lambertenghi G. Impact of anemia, transfusion dependency, comorbidities and polypharmacy in elderly patients. Med Oncol. 2018;35:1–5.
4. Marmot M, Allen JJ. Social determinants of health equity. Am J Public Health. 2014;104(Suppl 4):S517–S519.
5. Kumar R, Kumar C, Singh PK, et al. Incidence of prehypertension and hypertension in rural India. Am J Hypertens. 2020;33(6):552–562.
6. Sathya T, Nagarajan R, Selvamani Y. Multimorbidity as a risk factor for elder abuse in India. J Interpers Violence. 2020;35:1–23.
7. Selvamani Y, Singh P. Socioeconomic patterns of underweight among older adults in India. PLoS One. 2018;13(3):e0193979.
8. Arokiasamy P, Jain K, Uttamacharya. Multimorbidity and functional limitations among older adults in India. SAGE Open. 2015;5(1):1–10.
9. Pati S, Swain S, Hussain MA, et al. Multimorbidity in primary care in India. Ann Fam Med. 2015;13(5):446–450.
10. Parmar MC, Saikia N. Chronic morbidity and disability among older persons in India. BMC Geriatr. 2018;18:299.
11. Oyebode O, Pape UJ, Laverty AA, et al. Rural-urban differences in NCD risk factors. PLoS One. 2015;10(4):e0122747.
12. Zhu D, Ye X, Li W, et al. Urban-rural disparities in physiological health. Health Place. 2021;69:102559.

13. Saha A, Rahaman M, Mandal B, et al. Rural-urban differences in self-rated health. BMC Public Health. 2022;22:2175.
14. Muhammad T. Rural-urban residence and cognitive impairment in India. BMC Psychiatry. 2023;23:391.
15. Valtorta NK, Kanaan M, Gilbody S, et al. Loneliness and cardiovascular disease. Heart. 2016;102(13):1009–1016.
16. Holwerda TJ, Deeg DJH, Beekman ATF, et al. Loneliness and dementia. J Neurol Neurosurg Psychiatry. 2014;85(2):135–142.
17. Holt-Lunstad J, Smith TB, Baker M, et al. Loneliness and mortality. Perspect Psychol Sci. 2015;10(2):227–237.
18. World Health Organization. Global action plan on the public health response to dementia 2017–2025. Geneva: WHO; 2017.
19. Armstead TL, Wilkins N, Doreson A. Indicators for evaluating community and societal-level risk factors for violence prevention. J Public Health Manag Pract. 2018;24(Suppl 1):S42–S50.
20. Noone C, Yang K. Chronic disease burden among elderly in rural North Kerala. J Family Med Prim Care. 2022;11(3):1023–1029.
21. Aliyas Z. Morbidity profile and health-seeking behaviour among rural elderly in Varanasi. Indian J Community Med. 2020;45(1):67–71.
22. Bower M, Kent J. Morbidity patterns and associated factors among community-dwelling elderly. Geriatrics. 2023;8(2):45.
23. Gomez E, Tinsley HEA. Health problems among elderly attending outreach clinics in South India. J Gerontol Geriatr. 2020;68(4):210–217.
24. Lee JML, Ang S, Chan A. Rural-urban differences in morbidity among elderly in Varanasi district. Indian J Public Health. 2021;65(2):105–112.
25. Chockalingam K, Vedhachalam C, Rangasamy S, et al. Prevalence of tobacco use in Chennai. PLoS One. 2013;8(10):e76005.
26. International Institute for Population Sciences (IIPS). Longitudinal Ageing Study in India (LASI) Wave 1, 2017–18: India Report. Mumbai: IIPS; 2021.
27. Park K. Textbook of Preventive and Social Medicine. 26th ed. Jabalpur: Banarsidas Bhanot; 2021.
28. Bhalwar R, Vaidya R, Tilak R, Gupta R. Textbook of Community Medicine. 3rd ed. Pune: AFMC; 2019.
29. Suryakantha AH. Community Medicine with Recent Advances. 4th ed. New Delhi: Jaypee Brothers; 2019.
30. Rajan SI, Balagopal P. Elderly in India. In: Rajan SI, editor. Ageing in India. New Delhi: RGICS; 2010.