ORIGINAL ARTICLE

Prevalence of Hypertension in Geriatric Population of Rural Areas of Bareilly District: A cross-sectional Study

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ABSTRACT

Background: Hypertension is one of the most prevalent chronic non-communicable diseases among the geriatric population and a major contributor to cardiovascular morbidity and mortality. With India undergoing rapid demographic transition, a growing proportion of elderly individuals reside in rural areas where hypertension often remains underdiagnosed and poorly controlled due to limited healthcare access and awareness.

Aim: To study hypertensive disorder in the geriatric population of rural areas of Bareilly district.

Objective: To know the prevalence of hypertension in the geriatric population of rural areas of Bareilly district.

Materials and Methods: A community-based cross-sectional study was conducted over a period of one year among 440 elderly individuals aged ≥60 years residing in selected rural villages of Bareilly district. Participants were selected using a multistage sampling technique. Data were collected through a pre-tested, interviewer-administered schedule during household visits. Blood pressure measurements were recorded, and data were analysed using SPSS version 23.0. Results were expressed as frequencies and percentages.

Results: Out of 440 study participants, 178 were found to be hypertensive, yielding an overall prevalence of 40.5%, while 262 (59.5%) were non-hypertensive. Hypertension emerged as the most prevalent chronic morbidity among the rural geriatric population.

Conclusion: The study highlights hypertension as a major public-health problem among the rural elderly population of Bareilly district. The high prevalence underscores the need for strengthened screening, regular follow-up, and effective management of hypertension at the primary-care level to promote healthy ageing and reduce cardiovascular complications in rural communities.

KEYWORDS: Hypertension, Geriatric population, Rural health, Prevalence, Non-communicable diseases, Bareilly district

INTRODUCTION

Hypertension is one of the most common and significant chronic non-communicable diseases affecting the geriatric population (≥60 years)[1] and is a leading contributor to cardiovascular morbidity, mortality, and functional decline in older adults.[2] Advancing age is strongly associated with increasing blood pressure due to age-related arterial stiffness, endothelial dysfunction, and prolonged exposure to behavioral and metabolic risk factors.[3] Consequently, hypertension shows a steep rise above 60 years of age and constitutes a major public-health challenge among elderly populations.[4]

India is experiencing a rapid demographic transition with a growing proportion of elderly individuals, the majority of whom reside in rural areas.[4] Hypertension has consistently been reported as the most prevalent chronic morbidity among the Indian elderly; however, a substantial proportion of cases remain undiagnosed, untreated, or poorly controlled, particularly in rural settings.[5] Limited health awareness, poor accessibility to healthcare facilities, low literacy levels, and economic dependence further compound the burden of uncontrolled hypertension among rural geriatric populations.[6]

Rural regions of Uttar Pradesh, including Bareilly district, face additional constraints such as inadequate primary healthcare infrastructure, shortage of trained healthcare personnel, and suboptimal implementation of national programmes for non-communicable disease control.[7] Evidence from rural North Indian studies indicates a high prevalence of hypertension among the elderly, often coexisting with diabetes, cardiovascular diseases, and functional impairments.[8] These comorbidities substantially increase the risk of complications such as stroke, ischemic heart disease, and chronic kidney disease, thereby reducing quality of life and independence in old age.[3]

Despite the rising burden, hypertension among the rural elderly remains under-prioritized within routine healthcare services, with inadequate screening, irregular follow-up, and poor treatment adherence.[9] District-level epidemiological data on hypertension in the geriatric population are essential for effective planning and implementation of targeted interventions under national initiatives such as the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke and the National Programme for Health Care of the Elderly.[10,11]

In this context, the present study seeks to evaluate hypertension as a key component of the morbidity profile among the geriatric population residing in the rural areas of Bareilly district, Uttar Pradesh, with the aim of generating locally relevant evidence to support early detection, effective management, and promotion of healthy ageing in rural communities.[6]

Aim

To study hypertensive disorder in geriatric population of rural areas of Bareilly district.

Objective

To know the prevalence of hypertension in geriatric population of rural areas of Bareilly district.

MATERIALS AND METHODS

Study Design and Setting: This was a cross-sectional, community-based study conducted among persons aged ≥60 years residing in the rural areas of Bareilly district, Uttar Pradesh.

Study Duration: One year

Study Participants: Elderly residents (≥60 years) of selected rural villages of Bareilly district constituted the study population. Eligible individuals available during data collection were approached at the household level and interviewed face-to-face.

Eligibility Criteria

Inclusion criteria.

Participants who:

- were ≥60 years,
- resided in rural areas of Bareilly and were available during the data-collection period.

Exclusion criteria.

Individuals who:

- were <60 years,
- had severe cognitive impairment/dementia that precluded reliable responses,
- had a terminal illness expected to significantly limit life expectancy during the study period, or
- did not provide consent.

Sample Size Determination: The minimum sample size was estimated using the single-proportion formula $\left(\frac{Z^2 P(1-P)}{E^2}\right)$, where prevalence (P) = 77% (for the most common associated morbidity—musculoskeletal disorders), the computed size was n ≈ 272 and to ensure adequate precision and field feasibility, this was rounded up to 284. After adding a 20% non-response buffer, the target minimum became ≈350. Ultimately, 440 elderly were enrolled to improve precision and power.

Sampling Technique: A multistage sampling approach was employed.

Study Tools and Measurements: Data were collected using a pre-tested, interviewer-administered schedule (offline/manual)

Data were entered and analysed in SPSS (v23.0, licensed). Continuous variables were summarised as mean ± standard deviation (SD); categorical variables as frequency and percentage.

RESULTS

Table 1: Prevalence of Hypertension Among Geriatric population in Rural Areas of Bareilly District.

Blood Pressure Status	Number (n= 440)	Percentage (%)
Hypertensive	178	40.5
Non- hypertensive	262	59.5
Total	440	100

Interpretation: Hypertension was identified as the most prevalent chronic morbidity among the geriatric population residing in the rural areas of Bareilly district (Table 1). Out of 440 elderly participants aged 60 years and above, 178 individuals were found to be hypertensive, giving an

overall prevalence of 40.5%2, while 262(59.5%) were found to be non- hypertensive. This indicates that more than two-fifths of the rural elderly population was affected by elevated blood pressure.

DISCUSSION

Hypertension emerged as the most prevalent chronic morbidity among the geriatric population in the rural areas of Bareilly district, affecting 40.5% of the study participants. This finding highlights hypertension as a dominant non-communicable disease burden among rural elderly and reflects the ongoing epidemiological transition characterized by a shift from communicable to chronic degenerative diseases in aging populations.[2] Similar observations have been reported in community-based studies among elderly populations in rural India, where hypertension has consistently been identified as the leading morbidity, underscoring its growing public-health importance in rural settings.[5,8]

Overall, the findings of the present study indicate that hypertension constitutes a major public-health problem among the geriatric population in rural areas of Bareilly district. The high prevalence, combined with advancing age, physical inactivity, functional dependence, and barriers to healthcare access, emphasizes the need for strengthened screening, regular follow-up, and sustained management of hypertension at the primary-care level.[6] Effective integration of geriatric-friendly hypertension services within existing national programmes such as NPCDCS and the National Programme for Health Care of the Elderly is essential to reduce cardiovascular complications, preserve functional independence, and promote healthy ageing among the rural elderly population.[12,13]

CONCLUSION

Hypertension constitutes a major public health problem among the geriatric population residing in the rural areas of Bareilly district, with a substantial proportion of elderly individuals affected. The high prevalence of hypertension reflects the combined effects of population ageing, age-related vascular changes, and the increasing burden of non-communicable diseases in rural communities. These findings indicate that hypertension is no longer an urban-centric condition but has emerged as a dominant chronic morbidity among rural elderly populations.

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