The Silent Crisis: Health Issues Among The Senile Population In Bihar

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Abstract

The growing elderly population in Bihar signifies a silent health crisis, marked by a high incidence of chronic diseases, limited access to healthcare, and socio-economic challenges. This study explores the health issues faced by the senile population in Bihar through a comprehensive field survey method. Utilizing both qualitative and quantitative approaches like chi-square test has been used for analyzing data. This piece of research also highlights the experiences of elderly individuals while systematically analyzing the factors influencing their health and living condition. Data were generated from different parts of the state using structured questionnaires, interviews and focus groups discussions. The study investigates the prevalence of chronic conditions such as hypertension, diabetes, arthritis and respiratory issues, along with mental health concerns like depression and anxiety, which are intensified by social isolation and financial dependency. The lack of geriatric healthcare services, poor nutrition and insufficient awareness of preventive health measures further complicate these challenges.

Keywords: Elderly Population, Bihar, Health Crisis, Geriatric Care, Mental Health Challenges.

1. Introduction

Population aging presents a major demographic challenge worldwide, significantly impacting healthcare systems, social structures, and economic stability (United Nations, 2020). In India, where over 138 million elderly individuals reside, there is an increasing burden of geriatric health issues, especially in rural and economically disadvantaged areas (Ministry of Health and Family Welfare [MoHFW], 2021). Bihar, one of the most populous and socio-economically challenged states in India, exemplifies this crisis. The elderly population in the state, often referred to as the senile population, is becoming more susceptible to chronic diseases, limited access to healthcare, and weakening social support systems (Kumar & Singh, 2022). Despite the growing number of elderly residents, geriatric health continues to be an overlooked area in Bihar's public health discussions, highlighting the need for immediate scholarly and policy focus (Sharma et al., 2021).

Aging often brings a range of health challenges, such as non-communicable diseases (NCDs), mobility issues, cognitive decline, and mental health disorders (Gupta & Prasad, 2020). Research shows that cardiovascular diseases, diabetes, hypertension, arthritis, and respiratory illnesses are some of the most common health issues faced by the elderly in Bihar (Mishra et al., 2019). Furthermore, factors like malnutrition, insufficient immunization, and poor oral health increase their vulnerability (Srivastava et al., 2020). The elderly in rural areas are especially at risk due to limited healthcare infrastructure, low literacy rates, and financial difficulties, which hinder their access to timely medical care (Ranjan & Sinha, 2021).

A major concern is the shortage of geriatric healthcare facilities and specialized medical professionals in Bihar (Patel et al., 2021). The state's primary healthcare centers (PHCs) are inadequately equipped, with too few physicians trained in geriatric medicine (Das et al., 2020). Although government initiatives like the National Programme for Health Care of the Elderly (NPHCE) aim to enhance healthcare access, their implementation is often lacking due to administrative inefficiencies and financial limitations (Choudhary, 2019). As a result, many elderly individuals in Bihar rely on informal caregivers or traditional healers, which can lead to delays in diagnosis and inappropriate treatments (Verma & Yadav, 2022).

Mental health issues among the elderly, such as depression, anxiety, and dementia, have also been largely neglected in Bihar's healthcare policies (Saxena et al., 2021). Factors like social isolation, loss of loved ones, and financial dependence contribute to a decline in psychological well-being, yet mental health remains a stigmatized and underreported concern (Jha & Singh, 2020). Additionally, gender disparities worsen this situation, as elderly women, who are often widowed and financially reliant, face more significant health and social challenges compared to their male counterparts (Rao & Tripathi, 2021).

This study seeks to explore the significant health challenges faced by the elderly population in Bihar, evaluate current healthcare policies, and suggest sustainable solutions to tackle this overlooked crisis. With the elderly demographic in Bihar expected to rise in the coming decades (Census of India, 2011), it is essential to create a strong, inclusive, and accessible healthcare system for older adults. Tackling the health issues of this vulnerable group is not just a public health concern and a matter of social justice; it is also vital for ensuring that Bihar's senior citizens can age with dignity and good health.

2. Study area

Bihar, one of India's most populous states, is home to approximately 130 million people, making it the third most populous state in the country (Census of India, 2011). Predominantly rural, over 88% of its population resides in villages, reflecting its agrarian socio-economic structure (Kumar & Mishra, 2021). Bihar's economy has traditionally been reliant on agriculture, with major crops including rice, wheat, and maize, but in recent years, industrial and service sectors have shown growth (Sharma et al., 2020). Despite economic progress, the state continues to struggle with high poverty levels and low per capita income (Patnaik et al., 2022). Socially, Bihar is characterized by a rich cultural heritage, deep-rooted traditions, and a complex caste structure influencing socio-political dynamics (Rajan & Mathews, 2019). Geographically, the state is marked by the fertile Gangetic plains, making it suitable for agriculture but also vulnerable to recurrent floods (Singh, 2022). Addressing socio-economic disparities and improving healthcare infrastructure remain crucial for Bihar's sustainable development.
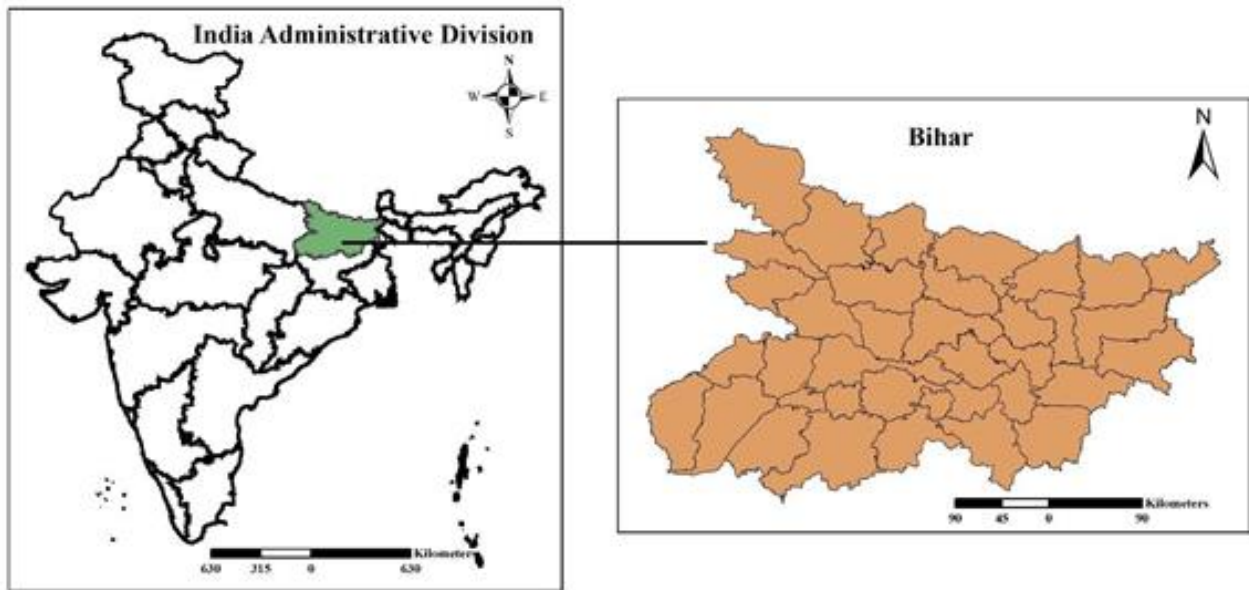
Figure 1: Study Area

3. Database and Methodology

This study used a mixed-methods approach to examine health issues among Bihar's elderly population, integrating both quantitative and qualitative data. The research is structured around a cross-sectional survey design, supplemented by in-depth interviews to capture health-related challenges faced by senior citizens of Bihar.

Data is collected through structured questionnaires administered to a representative sample of elderly individuals (aged 60 and above) across rural and urban districts of Bihar. A stratified random sampling technique ensures inclusivity across socioeconomic strata, gender, and geographic location. Around 433 samples of data has been collected from different regions in Bihar. The questionnaire includes sections on chronic illnesses, healthcare accessibility, nutritional status, and mental health. Furthermore, key informant interviews with healthcare professionals and caregivers provide contextual insights into systemic healthcare gaps in the study area. Secondary data is sourced from Census reports, National Sample Survey Office (NSSO) datasets, and Bihar Health Department records.

Quantitative data undergoes descriptive and inferential statistical analysis using SPSS software. Chi-square test has been applied to this piece of research to see association of living with or without family and old age health issues. Thematic analysis is applied to qualitative data to identify patterns in elderly healthcare experiences. Findings are shaped to inform policy recommendations aimed at enhancing geriatric healthcare in Bihar.

4. Result and Discussions

The elderly population in Bihar encounters serious health challenges, such as chronic diseases like hypertension, diabetes and arthritis, which are often exacerbated by limited access to healthcare. Issues like malnutrition, poor sanitation, and insufficient geriatric care add to their difficulties. Many older adults, especially in rural areas, face mental health issues stemming from isolation and financial dependency. It is essential to enhance healthcare infrastructure and promote programs aimed at supporting the elderly to tackle these problems effectively.

Table 1 Most common health issues of senile population in Bihar

Condition	Respondents
Hypertension	65
Arthritis	33
Dementia	108
Kidney Disease	19
Diabetes	24
Stroke	35
Osteoporosis	17
Depression	57
Malnutrition	36
Vision Loss	24
Paralysis	15

The data highlights the prevalence of various health conditions, with dementia (108) and hypertension (65) being the most frequent. Mental health concerns like depression (57) and malnutrition (36) are also notable. Chronic illnesses such as diabetes (24) and kidney disease (19) indicate metabolic vulnerabilities. This distribution underscores the need for targeted healthcare strategies addressing aging, cognitive decline, and lifestyle diseases (table 1 & figure 2).
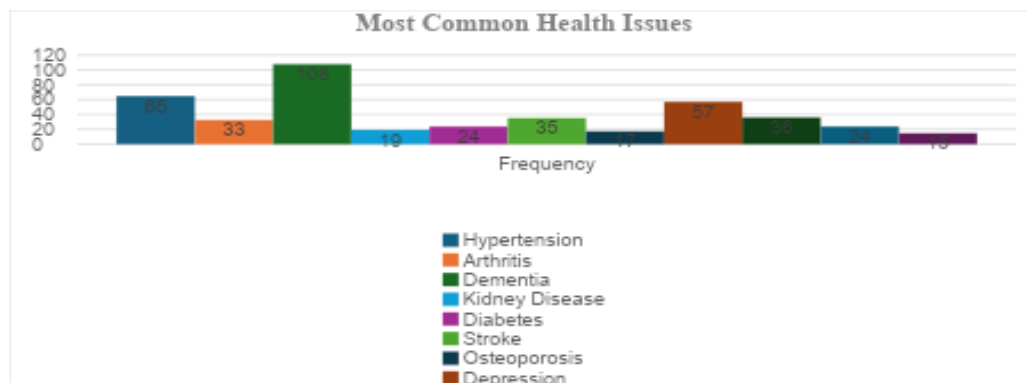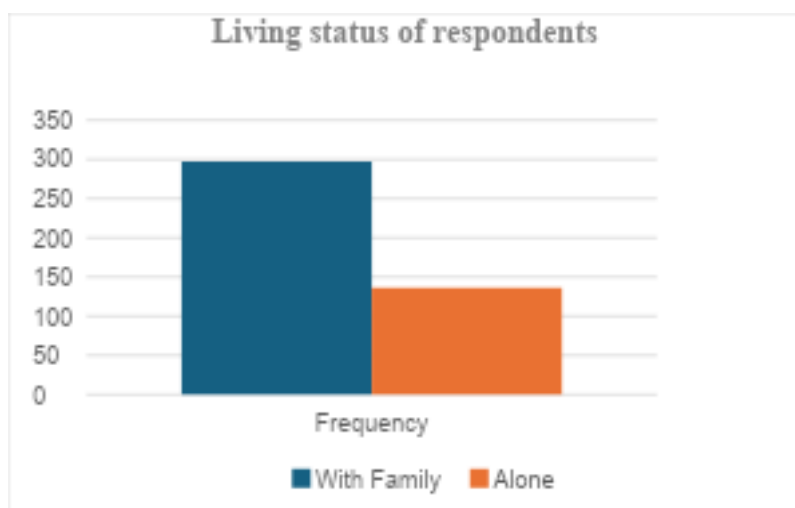

Figure 2
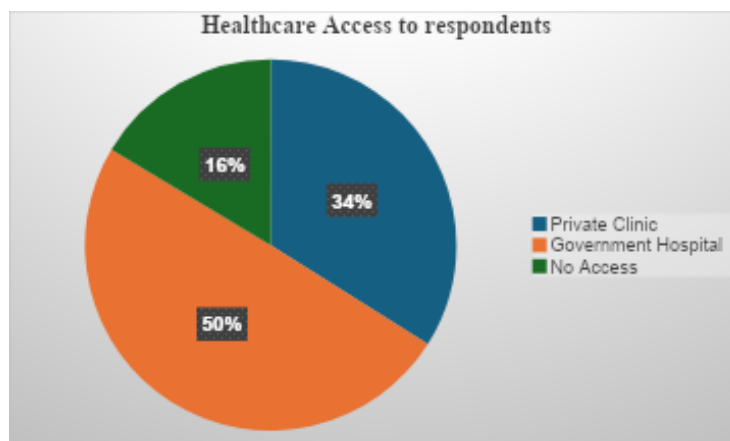
Figure 3

The above figure 3 shows the overall access to respondents in the study area. Around 50% of respondents claimed to have access to government hospital whereas 34% had access to private hospital and health centre. Only 16% of respondents did not have access to any healthcare services.

Living Status	Frequency
With Family	297
Alone	136

Table 2 Old age population living status in Bihar

The data indicates that most respondents (297) live with their families, while a smaller proportion (136) live alone. This suggests that family living is the dominant arrangement, potentially due to cultural, economic, or social factors. The significant number of individuals living alone could reflect urbanization, career demands, or personal choices. Understanding these patterns can help in policymaking, urban planning, and social support initiatives tailored to different living arrangements (table 2 & figure 3).

Figure 4

Table 3 Health conditions of respondents living with family and alone

Condition	Alone	With Family	Total
Dementia	103	25	128
Malnutrition	34	12	46
Stroke	31	4	35
Hypertension	54	21	75
Others	36	113	149

The field survey of 433 elderly respondents in Bihar highlights significant health concerns among those living alone and with family. Dementia is the most prevalent condition (128 cases), predominantly affecting those living alone (103). Malnutrition (46 cases) and stroke (35 cases) are also more common among solitary elders, indicating vulnerability due to lack of care. Hypertension (75 cases) is widespread

but affects more individuals living alone (54). Interestingly, the "Others" category (149 cases) is more prevalent among those living with family (113), suggesting diverse health issues in family settings. The data underscores the need for targeted elderly healthcare interventions, particularly for those living alone.

The chi-square test is applied in this research to assess the association between the health status of the elderly population and their living status—whether alone or with family. This statistical method helps determine if there is a significant relationship between these variables, providing insights into how living conditions impact elderly health outcomes in Bihar.

Table 4 of expected and observed respondents with family and alone

Condition	O (Alone)	E (Alone)	(O−E)2	(O−E)2/E	O (With Family)	E (With Family)	(O−E)2	(O−E)2/E
Dementia	103	76.2	720.04	9.45	25	51.8	723.04	13.96
Malnutrition	34	27.4	43.56	1.59	12	18.6	43.56	2.34
Stroke	31	20.9	102.01	4.88	4	14.1	102.01	7.24
Hypertension	54	44.7	86.49	1.94	21	30.3	86.49	2.85
Others	36	88.8	2771.04	31.21	113	60.2	2771.04	46.03

The chi-square test statistic is given by the formula:
2=(O-E)

Using a chi-square table, we compare our χ2 value of 121.49 with a chi-square distribution at 4 degrees of freedom at a 0.05 significance level. The critical value for df = 4 at 0.05 significance level is 9.488. Since 121.49 is much greater than 9.488, the p-value is extremely small (p < 0.0001), which means it is highly significant. Since our calculated chi-square value (121.49) is much higher than the critical value (9.488), we reject the null hypothesis. This means that there is a statistically significant relationship between living conditions (alone or with family) and health conditions. The distribution is not random; living conditions significantly affect the prevalence of these conditions.

Conclusion

The study establishes a strong correlation between living conditions and elderly health in Bihar, with dementia, malnutrition, and hypertension being more prevalent among those living alone. The chi-square analysis (p < 0.0001) confirms a statistically significant relationship between living arrangements and health conditions. While family living remains dominant, solitary elders face heightened health risks, indicating the need for targeted healthcare strategies. Social, cultural, and economic factors influence these patterns, highlighting the necessity for tailored interventions. Addressing these vulnerabilities through improved healthcare access and social support can enhance the well-being of elderly individuals, particularly those without family care.

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