

# A Descriptive Study to Assess the Prevalence of Hypertension Among Senior Citizens in Old Age Home at Virudhunagar

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## Abstract

*Hypertension is one of the most significant risk factors contributing to chronic illnesses in India. Recent epidemiological studies indicate a rising prevalence of hypertension not only among the urban population but also among younger and rural individuals. The elderly population is particularly vulnerable due to age-related physiological changes, lifestyle factors, and comorbid conditions. The present study was conducted to assess the prevalence of hypertension among senior citizens residing at an old age home in Virudhunagar. The primary objective was to determine the proportion of elderly individuals affected by hypertension and to provide a foundation for preventive health interventions. A descriptive research design was adopted for the study. A total of 34 elderly participants were selected using a non-probability purposive sampling technique. Data were collected through structured interviews and blood pressure measurements. Descriptive statistical methods, including frequency and percentage, were used for data analysis and presentation. The findings revealed that out of 34 participants, 67.65% had high blood pressure, while 32.35% maintained normal blood pressure levels. The high prevalence of hypertension among elderly residents highlights the need for regular health screening, lifestyle modification programs, and improved awareness about hypertension management in old age homes. The study emphasizes the importance of early detection and continuous monitoring of blood pressure to prevent complications such as stroke, heart disease, and renal impairment. Health education and nurse-led interventions can play a vital role in promoting healthy aging and reducing the burden of hypertension among the elderly population.*

**Keywords:** Hypertension, prevalence, elderly, old age home, Geriatric health

## INTRODUCTION

Hypertension is a major threat to global health due to increasing prevalence along with its role as a risk factor for other cardiovascular conditions and which accounts for nearly 7% of all Disability Adjusted Life Years (DALYs) [1]. Globally, people belonging to the age group 30–79 years, with over two-thirds of the population living in low- and middle-income countries (LMICs), 1.28 billion adults suffer with hypertension [2]. An estimated 46% of hypertensive adults are unaware of their condition,

while only 42% of the hypertensive adults are diagnosed and adequately treated [2]. According to the fifth National Family Health Survey (2019–2021), approximately 21.3% of the women and 24% of the men have high blood pressure in India [3].

Hypertension is indicated by two or more systolic blood pressure (SBP) readings of 140 mm Hg or higher, or diastolic blood pressure (DBP) readings of 80 mm Hg or higher [4]. High salt intake (more than 2 grams daily) and low potassium intake (less than 3.5 grams per day) increases the risk of stroke and excessive blood pressure. Most people, on average, consume far too much salt, almost 9–12

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gm/day, or about double the maximum recommended amount by the World Health Organization (WHO) [5]. Since the majority of hypertensive individuals are asymptomatic, there is a possibility that their condition will go undiagnosed, which increases the risk of complications like renal failure, heart failure, stroke, myocardial infarction, and early death [6].

### **NEED FOR STUDY**

Hypertension is a serious global health threat in both rural and urban areas. Among older adults, hypertension significantly impacts the individual's quality of life (QOL). Although hypertension (HTN) is a substantial and significant risk factor for cardiovascular diseases, the consequences of cardiovascular diseases may be worse in LMICs due to insufficient cardiovascular prevention, diagnosis, and treatment [7]. Its prevalence in India ranges from 24% to 30% in urban areas and from 12% to 14% in rural ones. Hypertension was responsible for 47% of cases of ischemic heart disease, 54% of strokes, and 13.5% of premature deaths globally. By 2025, 1.56 billion adults are expected to have high blood pressure. For Indians aged 45 and over, the estimated prevalence of hypertension was 45.9% (95% CI 45.4%–46.5%). Four out of ten senior citizens in India have high blood pressure [7]. The current healthcare policy should include more intervention tactics that consider demographics such as the wealthiest people, women, and older age groups.

### **OBJECTIVES**

The purpose of this study was to investigate the prevalence of hypertension among elderly people residing in a Virudhunagar home.

### **OPERATIONAL DEFINITION**

#### **Assess**

In this study, assessment refers to estimation of the level of hypertension among senior citizens.

#### **Hypertension**

The American Society of Hypertension and the International Society of Hypertension, according to the average of two or more precise measurements, defined hypertension as a systolic blood pressure of 140 mm Hg or higher or a diastolic blood pressure of 90 mm Hg or higher. Blood pressure measurements were taken in 3 consecutive days apart from by a health care provider.

#### **Senior Citizens**

- It refers to any Indian citizen who is at least sixty years old.
- In this study, persons who are male or female attained the age of 60 years residing at old age home.

#### **OLD AGE HOME**

A residential home that offers senior citizens support and care.

#### **Assumption**

- Hypertension is common among senior citizens.
- Level of blood pressure may vary from individual to individual.

#### **Delimitation**

- This study is delimited to 34 senior citizens.

#### **Projected Outcome**

- The study will identify the level of hypertension among senior citizens.

#### **Research Approach**

- The quantitative research approach was applied in this investigation.

#### **Research Design**

This study used a descriptive research design rather than an experiment.

## **SETTING OF THE STUDY**

The setting of the study is Danasamy Parimala Ammal Old Age Home in Virudhunagar. Around 40 senior citizens are residing at this old age home. It is approximately 5 kilometers from Virudhunagar.

- *Population:* It is about five kilometers from Virudhunagar.
- *Sample:* Senior citizens are residing in Danasamy Parimala Ammal Old Age Home.
- *Sample size:* The sample consists of 34 in number in selected old age home in Virudhunagar.
- *Sampling Technique:* The purposive sampling technique is used for this study.

## **Criteria for Selection of Samples**

### ***Inclusion Criteria***

Participants were selected based on the following criteria:

- Elderly individuals aged 60 years and above.
- Those who were willing to participate in the study.
- Participants who possessed adequate communication skills to respond to questions effectively.

### ***Exclusion Criteria***

Participants were excluded if they met any of the following conditions:

- Senior citizens who were not available at the time of data collection.
- Individuals with severe illness or cognitive impairment that could prevent reliable participation.

## **Description of Tool**

The data collection tool was structured into two parts:

### ***Part I: Socio-Demographic Information***

This section collected information on the participants' personal and health characteristics, including:

- Age in years.
- Sex.
- Religion.
- Marital status.
- Educational status.
- Hobbies and leisure activities.
- History of hypertension.
- Current illnesses and comorbid conditions.

This information provided a clear profile of the study population and helped identify potential factors associated with hypertension among the elderly.

### ***Part II: Blood Pressure Measurement***

Blood pressure was assessed using a validated automated Omron blood pressure monitoring apparatus, which ensures accurate and reliable readings. Measurements included both systolic and diastolic blood pressure, recorded in millimeters of mercury (mmHg). Participants were seated comfortably and rested for at least 5 minutes before the measurement. Two readings were taken at intervals of 2–3 minutes, and the average value was considered for analysis.

Using this structured approach ensured standardization in data collection and minimized measurement errors. The tool allowed for accurate assessment of the prevalence of hypertension among elderly residents and facilitated meaningful statistical analysis.

## **Method of Data Collection**

The following steps were followed to collect data systematically from the participants.

- *Permission and Ethical Considerations:* Formal permission was obtained from the secretary of the old age home to conduct the study. The nature, purpose, and duration of the study were clearly explained to the participants. Oral consent was obtained from each participant before data collection, ensuring voluntary participation.
- *Rapport Building:* A positive rapport was established with the participants to create a comfortable and trusting environment. The objectives and significance of the study were communicated clearly to them.
- *Sampling:* Participants were selected using a purposive sampling technique based on predetermined inclusion and exclusion criteria to ensure the appropriateness of the sample for the study.
- *Data Collection Procedure:* Participants were made comfortable, and privacy was ensured throughout the data collection process. Socio-demographic information was collected using a structured questionnaire (Part I of the tool).
- *Physiological Measurements:* Blood pressure was measured for all participants using a validated Omron BP apparatus. Readings were taken on three consecutive days to ensure reliability and consistency. Standardized procedures were followed, including resting the participants for 5 minutes before measurement and taking two readings at intervals of 2–3 minutes, with the average recorded for analysis.

This systematic approach ensured accuracy, reliability, and ethical compliance while collecting data on hypertension among elderly residents.

## DATA ANALYSIS

The data were analyzed in accordance with the study's objectives, using descriptive and inferential statistics.

### Descriptive Statistics

Frequency distribution and percentage analysis were used to examine the demographic factors.

### Ethical Consideration

- Formal authorization was acquired from the elderly care home authority.
- The study participants provided their oral consent.
- Anonymity and confidentiality were maintained throughout the study.

### Data Analysis and Interpretation

The findings are grouped in the following sections:

- *Section 1:* Subject distribution according to demographic characteristics.
- *Section 2:* Subject distribution by level of hypertension.

### Section I: Subject Distribution According to Demographic Characteristics

#### *Table 1 Shows That*

*Among the old age people age group, most of the subjects 23 (67.65%) age is 70–80 years. Regarding Sex, 20 (58.82%) were in male and 14 (41.18) were in female. All (100%) belongs to Hindu. Regarding education, most of the senior citizens, 23 (67.65%), belong to literate category. Regarding marital status, most of the senior citizens, 27 (79.41%), belong to married group. Most of the senior citizens are 28 (82.35%) and have a history of hypertension. 82.35% (28) senior citizens have physical illness and only 11.77% have mental illness.*

### Section II: Subject Distribution by Level of Hypertension

Table 2 presents the distribution of the study participants according to their blood pressure levels. Out of the total 34 elderly residents assessed, 23 participants (67.65%) were found to have high blood pressure, indicating a high prevalence of hypertension among the sample. 11 participants (32.35%) had normal blood pressure, while none of the participants was classified as having low blood pressure. The results clearly indicate that most of the elderly residents in the selected old age home were hypertensive, highlighting the need for regular monitoring and preventive interventions to manage blood pressure effectively.

**Table 1.** Distribution of subjects based on demographic variables.

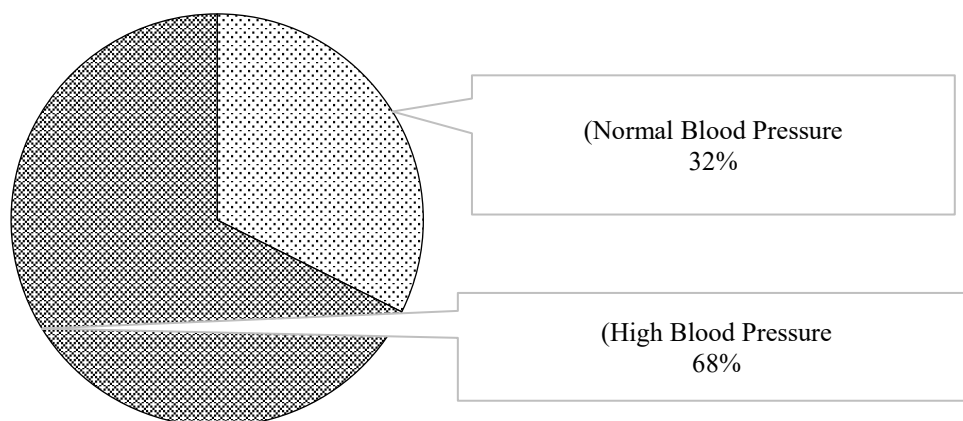
S.N.	Demographic Variables	No. of Participants	Percentage (%)
1	<i>Age in years</i>		
	60–70	6	17.65%
	70–80	23	67.64%
	>80	5	14.71%
2	<i>Sex</i>		
	Male	20	58.82%
	Female	14	41.18%
3	<i>Religion</i>		
	Hindu	34	100%
	Muslim	0	0
	Christian	0	0
4	<i>Education</i>		
	Literate	23	67.65%
	No formal education	11	32.35%
5	<i>Marital status</i>		
	Married (single)	27	79.41%
	Unmarried	7	20.59%
6	<i>History of hypertension</i>		
	Yes	28	82.35%
	No	6	17.64%
7	<i>Illness</i>		
	Physical	28	82.35%
	Mental	4	11.77%
	Nil	2	5.88%

Note: N = 34.

**Table 2.** Distribution of subjects based on the level of hypertension.

S.N.	Blood Pressure	Number	Percentages (%)
1	High	23	67.65%
2	Normal	11	32.35%
3	Low	0	0
	Total	34	100%

Note: N = 34.



**Figure 1.** Distribution of subjects based on the level of hypertension.

Note: N = 34.

This finding aligns with previous studies reporting a high prevalence of hypertension among older adults residing in institutional settings, suggesting that age-related physiological changes, lifestyle factors, and limited physical activity may contribute to elevated blood pressure in this population (Figure 1).

## DISCUSSION

The primary objective of the study was to assess the prevalence of hypertension among senior citizens residing at an old age home in Virudhunagar. The findings revealed that 67.65% of the participants had high blood pressure, while 32.35% had normal blood pressure. This indicates a notably high prevalence of hypertension among elderly residents in the institutional setting [8].

The high prevalence may be attributed to age-related physiological changes, including reduced arterial elasticity and increased vascular resistance, which are common among older adults. Additionally, lifestyle factors, such as limited physical activity, dietary habits, stress, and pre-existing health conditions, may contribute to elevated blood pressure. These findings are consistent with previous studies indicating that older adults, particularly those living in old age homes, are at higher risk of developing hypertension due to reduced mobility, social isolation, and lack of regular medical supervision [9].

Early identification and regular monitoring of blood pressure in elderly populations are essential to prevent complications such as cardiovascular disease, stroke, and kidney disorders. The results underscore the importance of implementing health promotion and preventive strategies, including routine health check-ups, exercise programs, dietary counseling, and awareness sessions, to manage hypertension effectively among institutionalized elderly individuals [10].

## CONCLUSIONS

The current study determined the prevalence of hypertension among elderly people at an old age home in Virudhunagar. Using a descriptive study design, 34 participants were selected through non-probability purposive sampling, and their blood pressure was measured using an Omron BP apparatus. Data analysis revealed that 67.65% of participants had elevated blood pressure, while 32.35% had normal blood pressure, indicating a high prevalence of hypertension among elderly residents.

These findings highlight the critical need for routine blood pressure monitoring and targeted interventions in old age homes to reduce the risk of hypertension-related complications. Health promotion strategies, including lifestyle modification, regular physical activity, stress management, and adherence to prescribed medications, are essential to improve cardiovascular health and overall quality of life for elderly individuals. The study emphasizes that proactive measures by healthcare providers and caregivers are necessary to manage hypertension effectively in institutional settings.

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