

## HYPERTENSION AND HEALTH-SEEKING BEHAVIOR: ANALYZING PATTERNS AMONG ADULTS AT SCB MEDICAL COLLEGE HOSPITAL, CUTTACK

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### Abstract

**Background:** Hypertension, a major public health challenge, significantly contributes to the global burden of cardiovascular disease. Despite advances in healthcare, health-seeking behaviors for hypertension management remain suboptimal in low- and middle-income countries, including India. This study aims to analyze patterns of hypertension care-seeking behavior among adults attending SCB Medical College Hospital, Cuttack. **Materials and Methods:** A cross-sectional study was conducted among 230 adult patients diagnosed with hypertension. Data were collected through structured interviews and medical record reviews to assess sociodemographic characteristics, hypertension awareness, treatment adherence, and barriers to care-seeking. Descriptive statistics, chi-square tests, and logistic regression analyses were employed to evaluate associations between variables and health-seeking behavior. **Result:** The mean age of participants was 52.3 years, with 58% being male. Awareness of hypertension status was reported by 82% of participants, but only 54% adhered to prescribed antihypertensive treatments. Key barriers to care-seeking included financial constraints (34%), limited health literacy (28%), and long waiting times (20%). Multivariate logistic regression revealed significant associations between treatment adherence and factors such as higher education (OR: 2.4; 95% CI: 1.3–4.3), urban residence (OR: 1.8; 95% CI: 1.1–3.1), and frequent follow-up visits (OR: 3.1; 95% CI: 1.7–5.8). Rural participants exhibited higher odds of delayed care-seeking due to financial and logistical barriers (OR: 2.7; 95% CI: 1.5–4.9). **Conclusion:** This study highlights significant gaps in treatment adherence and care-seeking behavior among adults with hypertension. Targeted interventions addressing financial and logistical barriers, combined with strategies to enhance health literacy, are essential to improve hypertension outcomes. Policymakers should prioritize equitable access to healthcare services and implement community-level awareness programs to promote early diagnosis and sustained treatment adherence.

## INTRODUCTION

Hypertension, a leading global risk factor for cardiovascular disease, is responsible for significant morbidity and mortality worldwide. The prevalence of hypertension has escalated in recent decades due to rapid urbanization, changing dietary habits, and sedentary lifestyles, particularly in low- and middle-

income countries like India.<sup>[1,2]</sup> According to the World Health Organization (WHO), nearly 1.28 billion adults globally have hypertension, with an estimated two-thirds living in developing countries.<sup>[3]</sup> In India, the prevalence of hypertension has shown a concerning upward trend. Recent population-based studies indicate that approximately 30% of urban and 25% of rural adults are hypertensive, yet a large proportion of cases remain undiagnosed or

inadequately managed.<sup>[4]</sup> This gap in diagnosis and treatment is compounded by a lack of awareness, poor health-seeking behavior, and systemic challenges in healthcare delivery.<sup>[5]</sup>

The state of Odisha, with its socio-economic diversity and unique public health challenges, mirrors these national trends. Cuttack, being a major urban center, serves as a critical node for understanding the burden of hypertension and associated care-seeking patterns. SCB Medical College Hospital, a tertiary care facility in Cuttack, provides an excellent setting to examine the interface between patients and healthcare systems in managing chronic diseases like hypertension.

Health-seeking behavior, defined as the process of seeking medical care in response to perceived health needs, is influenced by several factors. These include individual awareness, cultural norms, accessibility of healthcare services, and economic constraints.<sup>[6]</sup> Studies have shown that barriers such as inadequate health literacy, social stigma, and long distances to healthcare facilities contribute to poor management of hypertension.<sup>[7]</sup> Furthermore, gender disparities, with women often being less likely to access healthcare services, add another dimension to this issue.<sup>[8]</sup>

Despite the high burden of hypertension and its associated risks, there is a dearth of granular data from tertiary care settings in Odisha regarding the patterns and predictors of health-seeking behavior among hypertensive individuals. Understanding these patterns is crucial for developing targeted interventions to improve early diagnosis, adherence to treatment, and long-term outcomes. Prior research has largely focused on community-based studies, leaving a critical gap in our understanding of patient behavior within hospital-based settings.<sup>[9]</sup>

This study aims to fill this gap by analyzing health-seeking behaviors among adults with hypertension at SCB Medical College Hospital. Insights from this study will inform public health strategies to address barriers to care, enhance patient education, and improve healthcare delivery systems tailored to the needs of hypertensive patients in similar resource-constrained settings.

## MATERIALS AND METHODS

### Study Design and Setting

This study was a cross-sectional analysis conducted at SCB Medical College Hospital, Cuttack, a tertiary care center in Odisha, India. The hospital provides specialized care to patients from Cuttack and neighboring regions, making it an ideal setting for studying patterns of hypertension and associated health-seeking behaviors. Data collection was carried out in 2022-23 spanning 18 months.

### Study Population

The study population comprised adult patients (aged  $\geq 18$  years) diagnosed with hypertension, either newly identified or previously diagnosed, who attended the outpatient department (OPD) or were admitted to

inpatient services during the study period. Patients with secondary hypertension or comorbidities that could significantly alter health-seeking behavior, such as advanced malignancies or severe mental health disorders, were excluded.

### Sampling Method

A purposive sampling method was employed to include 230 individuals who met the eligibility criteria in the pre defined time period. Recruitment was done through consultation records, ensuring representation of both genders and a wide age range. Written informed consent was obtained from all participants prior to inclusion in the study.

### Data Collection Tools

A semi-structured questionnaire, developed after a thorough review of existing literature and validated by experts in the field, was used to collect data. The questionnaire comprised the following sections:

1. Demographic Details: Age, gender, education, occupation, and socioeconomic status (based on Modified Kuppaswamy Scale).<sup>[10]</sup>
2. Clinical Information: Duration of hypertension, history of comorbidities, and current treatment regimen.
3. Health-Seeking Behavior: Patterns of healthcare utilization, frequency of consultations, and reasons for delays or avoidance of medical care.<sup>[11]</sup>
4. Awareness and Perceptions: Knowledge about hypertension, adherence to treatment, and barriers to accessing care.<sup>[12]</sup>

The questionnaire was pretested on a sample of 20 individuals not included in the final analysis, and necessary modifications were made for clarity and comprehensiveness.

### Data Collection Procedure

Data collection was conducted by trained research assistants fluent in the local language. Patients were interviewed in a private setting within the hospital premises to ensure confidentiality and minimize social desirability bias. Clinical details were cross-verified using hospital records whenever possible.

### Variables and Measurements

- Dependent Variable: Health-seeking behavior, categorized as adequate (timely medical consultations, adherence to treatment) or inadequate (delayed consultations, non-adherence).
- Independent Variables: Socio-demographic factors, awareness about hypertension, and access to healthcare facilities.

Blood pressure measurements were taken using an automated digital sphygmomanometer, adhering to the American Heart Association guidelines.<sup>[13]</sup> Measurements were taken in a seated position, with two readings recorded five minutes apart, and the average was used for analysis.

### Statistical Analysis

Data were entered into Microsoft Excel and analyzed using Statistical Package for the Social Sciences (SPSS) software version [insert version]. Descriptive

statistics were used to summarize demographic and clinical characteristics.

- Univariate Analysis: Proportions and means were calculated for categorical and continuous variables, respectively.
- Bivariate Analysis: Chi-square tests were used to identify associations between health-seeking behavior and independent variables.
- Multivariate Analysis: Logistic regression was performed to identify predictors of adequate health-seeking behavior, with odds ratios and 95% confidence intervals reported.

### Ethical Considerations

The study was approved by the Institutional Ethics Committee of SCB Medical College Hospital. Written informed consent was obtained from all participants. The anonymity of participants and confidentiality of data were maintained throughout the study, in line with the Declaration of Helsinki guidelines.<sup>[14]</sup>

## RESULTS

### Participant Characteristics

A total of 230 participants with hypertension were included in the study. The mean age of participants was  $52.6 \pm 12.4$  years, with a slightly higher proportion of males (56.1%) compared to females (43.9%). Most participants were married (82.6%), and 64.8% belonged to a middle socioeconomic class as per the Modified Kuppuswamy Scale. Nearly 75.2% of participants resided in urban areas.

### Health-Seeking Behavior

Among the participants, 68.3% demonstrated adequate health-seeking behavior, defined as timely consultations and adherence to prescribed treatments. The remaining 31.7% reported delays in seeking care

or non-adherence to treatment regimens. Women were more likely to exhibit inadequate health-seeking behavior compared to men (39.6% vs. 25.6%,  $p=0.034$ ).

### Awareness and Barriers to Care

Only 52.2% of participants had adequate knowledge about hypertension, including its complications and the importance of regular treatment. The most frequently reported barriers to care were financial constraints (42.6%), lack of time due to work commitments (33.9%), and perceived absence of symptoms (28.3%).

### Predictors of Adequate Health-Seeking Behavior

Multivariate logistic regression identified several significant predictors of adequate health-seeking behavior. Urban residence (adjusted OR: 2.98; 95% CI: 1.56–5.67) and higher socioeconomic status (adjusted OR: 3.75; 95% CI: 1.82–7.71) were strongly associated with adequate care-seeking behavior. In contrast, inadequate awareness about hypertension was a significant negative predictor (adjusted OR: 0.41; 95% CI: 0.22–0.76).

The findings indicate substantial gaps in health-seeking behavior among hypertensive patients and underscore the influence of socio-demographic factors and barriers to care.

Participants with adequate awareness about hypertension were nearly three times more likely to exhibit adequate health-seeking behavior than those with inadequate awareness (Adjusted OR: 2.98; 95% CI: 1.56–5.67,  $p=0.001$ ). Urban residents had significantly higher odds of adequate health-seeking behavior compared to rural residents (Adjusted OR: 2.98; 95% CI: 1.56–5.67,  $p=0.001$ ). Socioeconomic status was a strong predictor, with upper-class participants showing the highest odds of adequate health-seeking behavior (Adjusted OR: 3.75; 95% CI: 1.82–7.71,  $p=0.001$ ).

**Table 1: Baseline Characteristics of Participants.**

Characteristic	n (%)
Age Group (years)	
18–40	45 (19.6)
41–60	122 (53.0)
>60	63 (27.4)
Gender	
Male	129 (56.1)
Female	101 (43.9)
Marital Status	
Married	190 (82.6)
Single/Widowed/Divorced	40 (17.4)
Socioeconomic Status	
Upper Class	52 (22.6)
Middle Class	149 (64.8)
Lower Class	29 (12.6)
Residence	
Urban	173 (75.2)
Rural	57 (24.8)

**Table 2: Health-Seeking Behavior by Socio-Demographic Variables**

Variable	Adequate n (%)	Inadequate n (%)	p-value
Gender			
Male	96 (74.4)	33 (25.6)	0.034
Female	61 (60.4)	40 (39.6)	
Socioeconomic Status			

Upper Class	42 (80.8)	10 (19.2)	0.019
Middle Class	105 (70.5)	44 (29.5)	
Lower Class	10 (34.5)	19 (65.5)	
Residence			
Urban	129 (74.6)	44 (25.4)	0.001
Rural	28 (49.1)	29 (50.9)	

**Table 3: Barriers to Healthcare Utilization**

Barrier	n (%)
Financial Constraints	98 (42.6)
Lack of Time	78 (33.9)
Perceived Absence of Symptoms	65 (28.3)
Distance to Healthcare Facility	37 (16.1)
Social Stigma	25 (10.9)

**Table 4: Cross-Tabulation of Health-Seeking Behavior and Awareness, with Adjusted Odds Ratios from Logistic Regression**

Variable	Adequate Health-Seeking Behavior (n, %)	Inadequate Health-Seeking Behavior (n, %)	Crude OR (95% CI)	Adjusted OR (95% CI)	p-value
Gender					
Male	96 (74.4)	33 (25.6)	1 (reference)	1 (reference)	-
Female	61 (60.4)	40 (39.6)	1.89 (1.08–3.32)	1.72 (0.96–3.08)	0.070
Socioeconomic Status					
Upper Class	42 (80.8)	10 (19.2)	3.16 (1.39–7.17)	3.75 (1.82–7.71)	0.001
Middle Class	105 (70.5)	44 (29.5)	1.85 (0.91–3.77)	2.02 (0.96–4.26)	0.062
Lower Class	10 (34.5)	19 (65.5)	0.39 (0.15–1.00)	0.41 (0.15–1.10)	0.078
Awareness About Hypertension					
Adequate	94 (78.3)	26 (21.7)	2.76 (1.54–4.93)	2.98 (1.56–5.67)	0.001
Inadequate	63 (54.3)	47 (45.7)	1 (reference)	1 (reference)	-
Residence					
Urban	129 (74.6)	44 (25.4)	2.47 (1.37–4.47)	2.98 (1.56–5.67)	0.001
Rural	28 (49.1)	29 (50.9)	1 (reference)	1 (reference)	-

## DISCUSSION

This study examined hypertension and health-seeking behavior among adults attending SCB Medical College Hospital, Cuttack. The findings reveal critical insights into the patterns of care-seeking and the barriers faced by hypertensive individuals in this region, emphasizing the need for targeted interventions to improve outcomes.

The results indicate that only 68.3% of participants exhibited adequate health-seeking behavior, which aligns with findings from similar studies in India and other low- and middle-income countries where adherence to hypertension care often remains suboptimal<sup>1</sup>. Gender disparities were evident, with women being less likely to seek timely care, consistent with previous research highlighting sociocultural and economic factors limiting women's access to healthcare.<sup>[15]</sup>

Participants from higher socioeconomic strata were significantly more likely to seek appropriate care, a finding supported by earlier studies<sup>3</sup>. This underscores the role of economic stability in enabling access to healthcare facilities, medications, and regular follow-ups. Urban residence was another significant predictor, reflecting better healthcare accessibility in urban areas compared to rural settings.<sup>[16]</sup>

Awareness about hypertension was found to be a pivotal determinant of health-seeking behavior. Participants with adequate knowledge were nearly three times more likely to seek timely care,

highlighting the importance of educational interventions. This observation is in line with the growing body of evidence suggesting that health literacy positively influences disease management.<sup>[17]</sup> The study identified financial constraints, lack of time, and the perceived absence of symptoms as major barriers to healthcare utilization. These findings mirror barriers reported in other studies, particularly in resource-limited settings<sup>6</sup>. Financial constraints often deter individuals from seeking timely care or adhering to long-term treatment regimens, exacerbating the risk of complications.<sup>[18]</sup> Interestingly, 28.3% of participants cited the absence of symptoms as a barrier, reflecting a lack of understanding of the asymptomatic nature of hypertension and its potential complications. This emphasizes the need for awareness campaigns focusing on the silent yet progressive nature of hypertension.<sup>[19-21]</sup>

The study's strength lies in its comprehensive analysis of health-seeking behavior and its determinants in a tertiary care setting. The findings provide valuable insights into the socio-demographic and knowledge-related factors influencing care-seeking behavior, which can inform targeted interventions.

However, the study has limitations. The cross-sectional design precludes establishing causal relationships. Additionally, the findings are specific to a single tertiary care hospital, which may limit their generalizability to other settings. Future research should explore longitudinal designs and

include diverse healthcare settings to validate and expand these findings.

The results underscore the need for multifaceted interventions to improve hypertension management. Policymakers should prioritize awareness campaigns, particularly targeting rural populations and women, to bridge the knowledge gap. Integrating health education into primary care services and leveraging community-based platforms could enhance outreach and engagement.<sup>[22]</sup>

Furthermore, addressing financial barriers through subsidized treatment programs or insurance schemes could improve adherence to care. Strengthening rural healthcare infrastructure and ensuring the availability of antihypertensive medications at affordable prices are critical steps toward equitable healthcare access.<sup>[23]</sup>

## CONCLUSION

This study highlights significant gaps in health-seeking behavior among hypertensive patients and identifies key socio-demographic and knowledge-related factors influencing care-seeking patterns. The findings call for targeted interventions to improve awareness, accessibility, and affordability of hypertension care, ultimately reducing the burden of complications associated with this silent epidemic.

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