

Patterns and determinants of healthcare-seeking behavior among hypertensive patients in a rural population of north India: A mixed-method study

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ABSTRACT

The prevalence of hypertension in India over the last 30 years is known to have increased rapidly. Hypertension is a chronic disease that needs to be managed within its sociological context as experienced by individuals. This study was conducted to identify the quantitative and qualitative determinants of healthcare-seeking behavior among hypertensive individuals in a rural population of north India. **Methodology:** A mixed-method study involving 100 adult hypertensive patients was employed. Data were collected on demographic characteristics, health-seeking behavior, and the reasons for choosing a particular health service using a structured questionnaire and interview guide. Descriptive statistics were used to examine the influence of determinants on health-seeking behavior and utilization of healthcare facilities and expressed as percentages. Qualitative data were thematically analyzed. **Results:** A total of 100 participants with hypertension between 38 and 76 years of age were included in the study. Out of the total study participants, 66.0% of the respondents were males and 34.0% were females. Participants demonstrated a generalized knowledge of hypertension and showed significant gaps and misconceptions in their understanding of the disease and the need for seeking expert care. There was also a lack of sense of trust in the healthcare system. Various demographic, sociocultural, and economic determinants of healthcare-seeking behavior in these rural patients' services were explored. This evidence can prove helpful in streamlining interventional programs and realigning the existing interventions to prevent and control hypertension in rural settings.

Keywords: Healthcare-Seeking Behavior, Hypertension, The Prevalence

Introduction

India, a low-middle income country (LMIC) is presently transitioning epidemiologically from predominantly communicable diseases to noncommunicable diseases.^[1] About 20% of Indians suffer from a chronic condition and in 2017 an estimated 200 million persons were living with hypertension.^[2] Hypertension is the third most important attributable risk factor

for burden of disease in South Asia and is directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease (CHD) deaths in India.^[3]

Medical care for hypertension is often delayed or is sought only for its complications such as stroke, heart attack, heart failure, and kidney failure.^[4]

Health-seeking behavior has been defined as any activity undertaken by individuals who perceive themselves to have a health problem or to be ill to find an appropriate remedy. The desired healthcare-seeking behavior is responding to illness by

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seeking help from a trained physician in a recognized healthcare center.^[5] The decisions made by patients often encompass all available healthcare options such as visiting a public or private health facility, self-medication, and the use of home remedies and these depend on a variety of personal, experiential, and sociocultural factors.^[6,7] Even among symptomatic and aware patients, the health-seeking behavior is often seen to be minimal resulting in low hypertension control.

Primary healthcare is conceptualized as the level of care at which the felt need for chronic care can be meaningfully met to prevent and control disease in an equitable manner.^[8] A recent assessment of resource availability at primary care centers in rural India,^[9] concluded that there was deficient preparedness to deliver comprehensive care for cardiovascular care at the primary care level. Consequentially, the management of chronic conditions including hypertension remains suboptimal at this level of healthcare delivery.

Currently, there is insufficient literature on the determinants of healthcare-seeking behavior of hypertensive patients from rural areas, their knowledge, perceptions, lifestyle practices, reasons for noncompliance, access to medication and healthcare, and ways in which they cope with various systemic issues in daily practice that specifically impact the care of their medical condition.

In this article, we sought an in-depth evaluation of patients' perspectives and expectations concerning varying dimensions of the process of care and the constraints within the healthcare delivery system that impact management of hypertension in rural India. The results of this mixed-method study can help us learn from the experiences of hypertensive patients, and gain essential data for the type of interventions needed to increase preventive and promotive activities that can help deliver comprehensive management of hypertension at the community level.

Material and Methods

Patient recruitment and inclusion

Patients were recruited from the medicine outpatient department (OPD) of a private tertiary care teaching hospital in rural Haryana, a state in north India using purposive sampling.

Type of Study: Mixed method exploration design involving collection and analysis of both quantitative (closed-ended) and qualitative (open-ended) data.

Study Period: April 2017–June 2017

Inclusion Criteria:

- Willingness to participate in the study
- Fluency in the local language (Hindi)
- Diagnosed with hypertension for at least 1 year and
- Age older than 18 years

Exclusion Criteria:

- Patients with cognitive impairment and/or mental illness as confirmed by a physician.

Data were collected through in-depth semi-structured interviews. All the patients visiting the medicine OPD and suffering from hypertension were informed about the purpose of the study. Those consenting to participate in the study were recruited in the study after obtaining their written consent and interviewed to collect data on demographic characteristics, health-seeking behavior, and the reasons for choosing a particular health service. Interviews were carried out until data saturation was reached and no new themes were emerging. Approval was obtained from the institutional ethics committee (IEC) on 20/02/2017 vide Project no. IEC-947 before enrolment of study subjects in the study.

Tools and techniques

Interview schedule

A structured interview schedule was used to collect information about the sociodemographic characteristics of the respondents and consisted of five (5) thematic areas to allow for an in-depth exploration of hypertensive patients. The interview schedule was validated by senior faculty members of the department of community medicine.

- Theme 1- Sociopsychological determinants
- Theme 2: Health-seeking behavior
- Theme 3: Demographic, sociocultural, and economic determinants in health-seeking behavior
- Theme 4: Geographic and healthcare delivery system determinants
- Theme 5: Care and support from family/caregivers/social networks.

Statistics

Descriptive statistics have been used to examine the relative influence of the determinants of health-seeking behavior and utilization of healthcare facilities amongst hypertensive adults and expressed as percentages. An in-depth interview of the patients was analyzed using transcript-based analysis. This involved multiple readings of each respondent's responses which allowed for familiarizing the data and helped structure and organize it into meaningful parts. Relevant information gained from each patient including verbatim quotes, naturally occurring commonalities and differences in experiences, beliefs, attitudes, perceptions, knowledge, opinions, and practices were noted.

This activity was accompanied by the coding process. Coding helped to identify a list of repetitive and/or rare ideas, grouping similar and different ideas together, followed by the formulation of concepts based on their commonalities and differences. The main sub-themes and concepts identified are listed in Table 1.

Table 1: Major sub-themes and concepts from in-depth interviews of hypertensive patients

Sub-themes	Concepts
Patients understanding and views about hypertension, its causes, and symptoms	Too much salt and oily food causes hypertension Use of ghee (Clarified butter) only in food Not transmitted from one to another Severe headache, vomiting and anxiety, Signs and symptoms of hypertension vary from patient to patient Hypertension cannot be treated, cured and prevented
Patients risk perception for developing hypertension and its complications	Everyone is vulnerable nowadays with changing lifestyle Every patient of hypertension develops complications Delay in seeking early treatment from a healthcare facility Failure to adhere to medical treatment and lifestyle management
Patients attitudes and perceptions towards the diagnosis of hypertension	Felt sad and disappointed when first diagnosed Did not hide from anybody People relate normally after knowing it is hypertension Never thought of getting the disease Relatives advise using herbal drugs/ traditional healers
Influence on decisions to seek care at the healthcare facility	The severity of signs and symptoms Pressure from family or social circle Availability of financial resources Distance from home to the healthcare facility Awareness of the services available at the healthcare facility
Barriers in care-seeking and management for hypertension at a healthcare facility	Lack of money Inadequate and poor public transport Poor understanding of the importance of regular check-ups Dissatisfied with long queues and waiting time at the health center/ hospital Unavailability of drugs from the Government Health facility The high price of hypertension drugs at the private pharmacies Distance from a residential area to the clinic No one to accompany to a health facility
Influence of family and/or social network	Advice on sources of care services Financially support from children and extended family Escort to the clinic Assist in household chores
Patients perception about the healthcare delivery system	Satisfied with some doctors answers and explanations Had problems with initially prescribed drugs Unavailability of hypertension drugs from the hospital pharmacy Expensive drugs from a private pharmacy
Impact of hypertension management on family life	Restrict family expenditure to afford hypertension drugs The burden on the family budget Sacrifice family needs

Results

The study identified several findings that have been classified into sub-themes through an analysis of patient responses. A total of 100 participants with hypertension between 38 and 76 years of age were included in the study. Out of the total study participants, 66.0% of the respondents were males and 34.0% were females. The majority of respondents (78.0%) belonged to the age category 50–60 years. Most of the respondents were married (68.0%) and 57.0% were presently employed/working. 52.0% of the study participants were prescribed more than one drug for hypertension. The most commonly prescribed antihypertensive drug class was ACE- inhibitors (71.0%).

Theme 1: Sociopsychological determinants

Most of the respondents knew of hypertension as a disease of raised blood pressure before their diagnosis. Figure 1a illustrates the source of information among hypertensive patients.

Respondents believed that hypertension is very common in the community. One of the respondents claimed;

“In every street, you will find a lot of people with raised blood pressure. I know many people suffering from high blood pressure. Even in my family, my father suffered from hypertension.”

Common signs and symptoms experienced by the hypertensive patients included headache, dyspnea, burning eyes, extreme anger, heaviness, and palpitations [Figure 1 b].

About 43.0% of the respondents were not aware of any complications of hypertension. As per one respondent *“I have heard that there is a disease called Pressure. (laughs.) I don't know details regarding the disease though. I have heard that If blood sugar is high doctors have to cut a limb and blood pressure is high, we will have paralysis and then die. I hear a lot these things but I don't know how it happens.”*

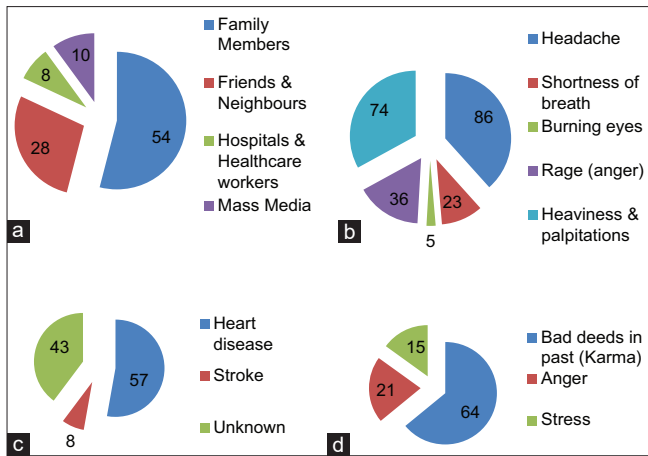


Figure 1: (a) Source of information regarding hypertension. (b) Signs and symptoms observed by respondents (multiple responses). (c) Knowledge about the long-term complications of hypertension (multiple responses). (d) Perception regarding the cause of hypertension

On being asked about the causes of hypertension, about 64.0% of respondents attributed hypertension to be due to past deeds (*Karma*) while anger, worrying, work and family stress, [Figure 1d] were the other causes reported by respondents.

According to one respondent;

“I am a very short-tempered person; I’ve got a machine at my home to measure my blood pressure and every time I am angry and I measure my blood pressure. It is always raised.”

“High blood pressure runs in my family. My father and grandparents took medications for raised BP”

The majority of respondents (57.0%) interviewed were knowledgeable about hypertension and its long-term complications as an underlying cause for heart diseases [Figure 1c]. Some observant respondents were aware of the symptoms and signs of raised blood pressure.

“Whenever I have headache, I know my blood pressure is raised because most of my relatives who suffered from this disease experienced some of these symptoms.”

Theme 2: Health-seeking behavior

In most cases, the diagnosis of hypertension was made when the respondents visited the physician for some other health ailments. *“I once went to the OPD for my father’s check-up. After the physician did his check-up, I requested him to measure my blood pressure. After measuring my Blood Pressure he said that my blood pressure is raised, to which I told him about difficulty in breathing and chest pain. Then he prescribed me medications for my blood pressure and a regular follow-up.”*

Participants’ choice of a healthcare facility was decided by multiple factors such as family support, treatment cost, distance to the health facility, and transportation cost.

As one respondent reported *“We have to reach there as early as six in the morning to get our registration done. We spend at least 4–5 hours in the health facility. Also, sometimes doctor is not available or another doctor is there.”*

Doctor-patient communication was also seen to be a significant determinant for the health-seeking behavior of the hypertensive patient. Participants reported that doctors were sometimes rude, uncaring, and did not take patients’ symptoms seriously as they explained: *“Recently I had an episode of fainting attack and complete black out at home. I told the doctor about it, but she behaved as though she didn’t care. She had lots of patients to examine. So she just prescribed the same medicines.”*

Amongst the healthcare facilities utilized, [Table 2], it was observed that most of the respondents preferred to visit hospitals (74.0%). Nearly, 10.0% of respondents reported visiting traditional healers for alternative medications such as Ayurveda and herbal medicines, suggesting that it is beneficial and harmless.

Some respondents (3.0%) were found taking medications prescribed to a relative or friend. 11.0% of respondents were prescribed medications by local pharmacists.

“My friend had been suffering from hypertension. He had a blood pressure measuring device with him, he measured my blood pressure, which was high, and asked me take medications for high BP, then he gave me his own drugs to me and told me take them daily in morning”

Theme 3: Demographics, sociocultural, and economic determinants in health-seeking behavior

Our study identified some barriers to access healthcare services such as cost of transport, unavailability of escort to accompany to the healthcare institution, loss of daily wages for a family member who chooses to accompany the patient, and inadequacy of local public transport to hospitals. Majority of patients being elderly, walking any distance was seen as a problem issue.

Adherence to the recommended treatment regime is crucial to the management of hypertension. In our study, 39.0% of the respondents [Table 3] discontinued their treatment due to a variety of reasons.

“I don’t understand why I have to take unnecessary medications when I don’t feel any pain or discomfort.”

Around 29.0% of those who discontinued treatment cited the financial cost of treatment as the reason for not being able to adhere to the treatment regimen.

Respondents with low socioeconomic status, despite having access to healthcare services found it difficult to regularly visit a physician for follow-up of treatment. *“I don’t get enough time to visit hospital for the follow-up visit. The doctor just writes down same medications again and again, as I am a daily wager it affects my income.”*

Table 2: Determinants of healthcare-seeking behavior among hypertensive patients

Determinants	Percentage (%)
Utilization of healthcare services	
Hospitals	74
Chemist Shops	11
Traditional Healers	10
Home remedies	05
The average time taken between the appearance of signs and symptoms and seeking healthcare (n=95)	
Less than 3 months	12
3-6 months	31
More than 6 months	57
Factors influencing the decision to seek healthcare services (n=95)	
Desire to feel better/affected by symptoms	67
To be able to fulfill family responsibilities	13
Availability of hospitals/health facility	15
Patient adherence to medications	
Regular with treatment	61
Discontinued Treatment	39
Reasons for discontinuation (n=39)	
The financial cost of treatment	29
Side effects of medication	06
Difficult to follow-up	04

Table 3: Geographic and healthcare delivery related determinants affecting healthcare-seeking behavior

Preferred healthcare sector	Percentage (%)
Public (government) sector	48
Private sector	40
Uncertain	12
The distance of health facility from residence	
Less than 5 km	32
5-10 km	50
More than 10 km	18
Waiting time at the health facility	
Less than 10 min	08
10-30 min	81
More than 30 min	11
Satisfaction with the management of hypertension at the health facility	
Partly satisfied/satisfied	44
Dissatisfied	13
Cannot say	53

Theme 4: Geographic and healthcare delivery determinants

Around 82.0% of respondents reported access to public and private healthcare services within 10 km from their residence [Table 3] and 48.0% of respondents reported using public healthcare facilities for the management of hypertension.

Respondents preferred visiting a public health facility in comparison to a private health facility.

“Healthcare services at private hospitals are very costly, and they prescribe more tests as compared to that of public sectors where the cost

of treatment is not much but it takes time to stand in long queues and wait for long.”

The indifferent attitude and behavior of some private healthcare workers towards the patients were also seen as a contributing factor for utilizing public health facilities.

Theme 5: Care and support from family/caregivers/social networks

Family support affected and played a key role in healthcare-seeking behavior, especially among the dependent elderly population.

An attendant with one of the respondents said;

“Ever since my father was diagnosed with hypertension, he was advised to reduce salt intake. considering this, our whole family has now become habitual of taking a low salt diet.” Few respondents reported how their family facilitated their adherence by repeatedly reminding them to take medicines as prescribed. *“Sometimes I forget to take my medicines in the morning. Then ... I can feel headache by mid-morning. At times my grand-daughter scold me (smiles).my family cares for me.”*

Discussion

This mixed-method study explored the knowledge and experiences of patients impacting health-seeking behavior for hypertension, in rural India. In a recent study by Ghosh and Kumar,^[10] the prevalence of hypertension was found to be higher in urban areas, with small rural-urban differences thereby implying the rapid spread of the epidemic of hypertension even in the rural population. This increasing prevalence of hypertension in the rural population may present serious implications as the public health system through primary health centers in rural areas is still focused on infectious diseases and reproductive and child health making people rely on the private sector for the management of hypertension and its associated complications, thus adding substantially to their financial strain.

Our findings show adequate levels of awareness about hypertension among the patients. However, as awareness by itself does not necessitate adherence to treatment, but can pave the way towards lifestyle and behavior modification, it is pertinent to understand the rationale behind failure to translate knowledge into implementation. Findings from a study conducted by Prenissl *et al.*^[11] among adults aged 15–49 years old, revealed that while the proportion of those with hypertension was high (76%), less than half (45%) of individuals were aware of their diagnosis, less than 1 in 7 (13%) reported currently taking BP-lowering medication, and less than 1 in 10 (8%) had achieved control. This study, therefore, reiterates the importance of empowering the patients with correct knowledge about the disease, its treatment and benefits to push aside the misguided sociocultural beliefs, and misconceptions.

Healthcare-seeking behavior is known to be poor for chronic and asymptomatic diseases such as hypertension. In our

study, patients were diagnosed either through opportunistic screening while visiting a health facility for unrelated reasons or non-acute symptoms related to one or more complications of hypertension. Asymptomatic patients do not feel the need for treatment as there are no tangible benefits experienced by them. In a community-based study conducted in rural Kerala,^[12] the proportion of patients with poor adherence was significantly higher among those who were asymptomatic at the time of diagnosis compared to those who were symptomatic. Similar findings were reported by Bhandari *et al.*^[13] It may thus be assumed that patient-related factors and beliefs may act as deterrents to adherence to antihypertensive management.

Evidence from literature,^[14] has demonstrated the benefit of both lifestyle and antihypertensive medication therapy in lowering BP. Our findings show that many patients had limited knowledge and misconceptions about lifestyle modifications felt necessary to lower BP. Very few patients could identify a lack of physical activity and obesity as risk factors. On the contrary, some patients felt that they should rest and physical activity should be avoided. More so in rural India, the misconceptions concerning health and disease are so deeply ingrained in the minds of the patients that any attempt to modify lifestyle can prove difficult.

The Government of India has launched the National Program For Prevention and Control of Cancer, Diabetes, Cardiovascular Disease, and Stroke in 2008 which provides for screening people aged 30 years and above for hypertension.^[15] As a result, many previously undiagnosed cases are being diagnosed and put on treatment, but the intended benefits of the program, i.e. reduction in mortality from hypertension and NCDs, may not be seen unless adherence is ensured through easy availability of antihypertensive drugs in government-run public health facilities.

The asymptomatic nature of hypertension may lead some not to seek healthcare unless their condition interferes with social or personal activities including their daily living such as work and household maintenance functions. Instead of approaching healthcare facilities, patients are seen to ignore, tolerate or self-treat symptoms at home: a phenomenon referred to as the “symptom iceberg.”^[16] Our study revealed that the decision to seek healthcare was hindered by a multitude of barriers faced by patients. Hypertension treatment imposes a financial burden on the health system and families but its adequate and systematic management can save higher costs by preventing complications such as cardiovascular events. In a study,^[17] focussing on the cost of care for hypertension, it was found that complications of hypertension and the presence of comorbid conditions, higher costs significantly accounting for the increasing financial burden on families and the healthcare system. It is in this context that the role of primary prevention becomes essential. In a primary-care setting, early diagnosis and management of hypertension can stave-off the increasing cost of complications and considerably save the limited resources of the health system. Literature^[18] also suggests that controlling hypertension is a cost-effective strategy in reducing cardiovascular events and deaths. This high cost of

care can be balanced by efficient utilization of limited resources along with population-based preventive approaches including multi-sectorial collaborations in hypertension control.^[19]

The low rates of blood pressure control in India can be attributed to multiple reasons persisting at different levels of healthcare cascade. At the country level, a low political weightage, competing for healthcare priorities such as infectious diseases and malnutrition and limited financial commitment to hypertension serve as challenging barriers. At the healthcare facility level, inadequate knowledge on hypertension management, inefficient approach, and inadequate access and availability of drugs serve as formidable barriers. At the community level, lack of public awareness, financial constraints, and other life priorities may serve as individual barriers.

The daily challenges experienced by the common rural Indian in navigating the Indian health system, especially for diagnosis, were also described by Yellapa *et al.*^[20]

Summing up, the chronic nature of hypertension mandates that patients and their families to actively participate in their care, referred to in the literature as self-care, including activities such as taking medication, being aware of complications and danger signs, regular follow-up, making sustained lifestyle changes, and managing emotional changes. The qualitative aspect of our study has helped us identify many challenges for better understanding and treatment of hypertension and may have suggestive implications for a service delivery system for chronic diseases in rural India. It provides a scaffolding that can be used as a reference to treat health problems in the context of multiple realities of a health system in a middle-income country like India.

Conclusion

The study revealed various factors that influenced the healthcare-seeking behavior among hypertensive individuals in rural Haryana.

This study provides qualitative evidence of the patient's beliefs and challenges encountered for adequate management of hypertension. Limited awareness about the seriousness of hypertension as a chronic disease and inability to adhere to its medical management due to financial constraints often makes patients search for alternative sources of healthcare services. This calls for public health education campaigns to promote awareness and measures to ensure the quality of healthcare services and their ease of accessibility for the management of hypertensive to prevent long-term complications.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and

due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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