

# Key Factors Influencing Help-Seeking Behavior Toward Hypertension Treatment Among the Productive-Age Population

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## ABSTRACT

**Background:** Hypertension remains a major public health concern, particularly among the productive-age population, where delayed treatment-seeking behavior contributes to poor disease control and an increased risk of complications. Guided by the Health Belief Model (HBM), this study aims to identify key factors influencing help-seeking behavior toward hypertension treatment among individuals aged 15–59 years.

**Method:** This cross-sectional study was conducted in Taman Subdistrict, Madiun City, involving 146 respondents with documented long-standing hypertension selected through purposive sampling. Data were collected using a structured Likert-scale questionnaire assessing treatment-seeking behavior and HBM constructs, including perceived seriousness, perceived vulnerability, perceived barriers, perceived usefulness, self-efficacy, and cues to action.

**Result:** Data were analyzed using descriptive statistics, chi-squared tests, and binary logistic regression. The results showed that 72.6% of participants demonstrated positive help-seeking behavior. Multivariate analysis revealed four significant predictors: perceived vulnerability (OR = 33), perceived barriers (OR = 0.02), perceived usefulness (OR = 0.03), and self-efficacy (OR = 0.04). Within the HBM framework, perceived seriousness and cues to action were not associated with help-seeking behavior. These findings highlight the critical role of psychological and perceptual factors in shaping treatment-seeking decisions. Strengthening patients' self-efficacy, reducing barriers, and improving understanding of treatment benefits may enhance timely care-seeking among individuals with hypertension. Future studies employing more representative sampling and longitudinal designs are recommended to confirm and extend these findings.

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## INTRODUCTION

Hypertension is a major public health challenge that adversely affects the productive-age population, underscoring the importance of understanding the factors influencing help-seeking behavior in its management.(1–5) Effective treatment adherence is crucial for managing hypertension, and various studies have identified key determinants that shape patients' decisions to seek medical assistance for their condition.(6) Factors associated with healthcare access, personal beliefs, and socioeconomic status play vital roles in determining whether individuals engage with health services regarding hypertension management.

Within the framework of the Health Belief Model (HBM), help-seeking behavior refers to the actions individuals take to recognize symptoms, evaluate their vulnerability, and decide to seek medical assistance. Given the high prevalence and long-term consequences of hypertension, understanding individual perceptions alone is

insufficient; it is equally important to examine how health system factors such as accessibility, continuity of care, and service responsiveness shape help-seeking behavior.

Recent research emphasizes the influence of healthcare system-related factors on help-seeking behavior.(8–10) For instance, the availability of medications, qualified personnel, and diagnostic resources are critical in facilitating treatment-seeking behavior among individuals with hypertension, particularly in rural contexts.(7) These findings are supported by extensive literature indicating that patients are more likely to pursue formal treatment avenues when healthcare services are perceived as accessible and efficient.(11) Additionally, service availability not only influences treatment compliance but also reflects broader health system effectiveness, which is particularly relevant in low- and middle-income countries.(11)

Furthermore, personal health literacy and awareness are vital in determining help-seeking behavior.

Limited knowledge about hypertension and its implications can adversely sway patients' decisions. A study revealed that individuals with low awareness of their hypertensive status were less likely to actively utilize healthcare services (12). Financial constraints and transportation difficulties also emerge as formidable barriers, particularly for individuals in lower socioeconomic brackets, thereby exacerbating disparities in healthcare access and outcomes. Enhancing awareness and literacy within communities is fundamental to promoting proactive health-seeking behavior, which can lead to better disease management and prevention strategies.(12,13)

Hypertension remains a pressing public health issue in Indonesia, particularly affecting the productive-age population, which encompasses individuals between 18 and 64 years old.(14) Statistical data indicate a concerning trend, with the prevalence of hypertension and associated risk factors rising annually within this demographic. A report from Bantul Regency documented an increase in morbidity rates from 11.98% in 2019 to 12.29% in 2020, highlighting the growing burden of health complaints among adults, including hypertension-related conditions.(15)

This upward trajectory is supported by findings from a cross-sectional study demonstrating that a significant proportion of adults in rural settings experienced undiagnosed hypertension, often exacerbated by limited health literacy and restricted access to healthcare services.(16) Hypertension remains one of the leading non-communicable diseases globally and in Indonesia. National health surveys indicate that hypertension affects more than one-quarter of the adult population, with increasing prevalence among younger age groups. Locally, data from Banjarejo Community Health Center revealed a substantial number of hypertension cases in the productive-age population, underscoring the need for focused research on help-seeking behavior. Presenting these figures at the outset highlights the urgency of addressing hypertension management within the healthcare system.

This study is grounded in the Health Belief Model (HBM), which provides a theoretical framework for understanding health-related decision-making. The HBM posits that individuals' health behaviors are influenced by their perceptions of disease seriousness, personal vulnerability, perceived benefits and barriers to action, self-efficacy, and cues to action. Within this framework, help-seeking behavior in hypertension refers to the process by which individuals recognize symptoms, assess their risk, and decide to seek medical assistance. Applying the HBM allows for a systematic examination of the psychological and perceptual factors influencing treatment-seeking decisions among the productive-age population.(7)

Help-seeking behavior in hypertension can be understood through HBM, which explains how individual perceptions shape health-related decisions. Within this model, perceived seriousness influences whether patients recognize hypertension as a condition requiring medical attention, while perceived vulnerability reflects their sense of personal risk of developing complications. Perceived benefits or usefulness determine whether individuals believe that treatment will improve health outcomes, whereas perceived barriers such as financial costs, distance to facilities, or social stigma can discourage care-seeking.

Self-efficacy, or confidence in one's ability to manage hypertension, is critical for initiating and maintaining treatment adherence. Finally, cues to action, such as health campaigns or advice from family members and healthcare providers, serve as external triggers that prompt individuals to seek care. Together, these constructs provide a theoretical basis for understanding how psychological and contextual factors interact to influence help-seeking behavior among individuals with hypertension.(7)

The sociodemographic characteristics of the productive-age population also influence help-seeking behavior. Evidence suggests that individuals aged 40 years and older are at a higher risk of hypertension and often encounter distinct circumstances that affect their treatment adherence.(17) Furthermore, cultural attitudes toward healthcare utilization play a significant role in shaping health-seeking behavior as social norms can either encourage or deter individuals from pursuing medical assistance. This underscores the importance of culturally sensitive interventions and health education initiatives.(18)

The purpose of this study is to identify and analyze key factors that significantly influence help-seeking behavior for hypertension treatment among individuals in the productive-age group.(19) Although prior research has explored treatment adherence and health-seeking behavior in hypertension, many studies have emphasized structural factors such as service availability and socioeconomic status, with less attention to psychological determinants. Moreover, findings on the influence of HBM constructs such as perceived seriousness, perceived vulnerability, and self-efficacy remain inconsistent across different populations.

In Indonesia, evidence is particularly scarce regarding how these constructs affect help-seeking behavior among the productive-age population, despite the rising prevalence of hypertension in this group. Addressing this gap, the present study applies the HBM to identify key psychological and perceptual factors that influence timely treatment-seeking for hypertension.

This study contributes new evidence on the role of psychological factors in hypertension management among

Indonesia's productive-age population by applying the HBM. These insights are expected to provide a deeper understanding of the factors that facilitate or hinder timely treatment-seeking, which is essential for improving hypertension control and preventing long-term complications.

## **METHOD**

### **Study Design and Setting**

This study employed a quantitative research design with a cross-sectional approach to examine the relationship between treatment-seeking behavior among individuals with hypertension and associated psychosocial and demographic factors. The cross-sectional design enabled the researchers to capture data at a single point in time, allowing for the assessment of existing patterns and correlations without manipulating variables. The study was conducted in Taman Subdistrict, Madiun City, East Java, which consists of four villages (Banjarejo, Kejuron, Manisrejo, and Mojorejo). This district was selected because it represents a mixed urban population with varied sociodemographic characteristics and has a relatively high burden of hypertension cases recorded in local healthcare facilities. In addition, the availability of electronic medical records at Banjarejo Community Health Center provided reliable data for identifying long-standing hypertension cases, making the district an appropriate setting for investigating help-seeking behavior.

### **Population and Sampling**

The study population consisted of 230 documented cases of long-standing hypertension recorded in the electronic medical records of Banjarejo Community Health Center in 2025, from which a sample of 146 respondents was selected using purposive sampling. This sampling technique was used to select respondents who met the study criteria. The target population included individuals aged 15–59 years with a confirmed diagnosis of hypertension in the health center's records.

Of the 230 recorded cases, 146 were selected based on inclusion and exclusion criteria. The inclusion criteria were individuals of productive age (15–59 years), diagnosed with long-standing hypertension, and willing to participate in the study. The exclusion criterion was the presence of severe comorbidities such as stroke. For the purpose of this study, "long-standing hypertension" was defined as a confirmed diagnosis of hypertension recorded in the health center's electronic medical records for at least one year prior to January 2025.

This definition was applied to ensure that respondents had sufficient experience with the condition to reflect established patterns of help-seeking behavior. The study was conducted between January and April 2025.

Diagnostic data were obtained from electronic medical records covering the period from January to February 2025. Questionnaire administration took place from March to April 2025, with a total duration of six weeks.

### **Data Analysis**

Data analysis was carried out through several stages, beginning with descriptive statistics to summarize the distribution and characteristics of each variable in the univariate analysis. Bivariate analysis was subsequently conducted using the chi-squared test to examine associations between categorical variables, or Fisher's exact test when expected cell counts were insufficient to meet the assumptions of the chi-squared tests. Finally, multivariate analysis was employed using binary logistic regression to identify the most influential factors on treatment-seeking behavior while controlling for potential confounders. All statistical analyses were performed using the SPSS software package. Statistical significance was determined at  $\alpha = 0.05$  with a 95% confidence interval. Results were presented using odds ratio (OR).

### **Variables**

The dependent variable was help-seeking behavior, measured by a structured Likert-scale questionnaire and dichotomized into positive ( $\geq 18$ ) and negative ( $\leq 18$ ). Independent variables were defined operationally based on summed item scores: perceived seriousness ( $>30$  = serious,  $\leq 30$  = not serious), perceived vulnerability ( $\leq 30$  = vulnerable,  $>30$  = not vulnerable), perceived barriers ( $\geq 30$  = barriers present,  $<30$  = no barriers), perceived usefulness ( $\geq 30$  = beneficial,  $<30$  = not beneficial), self-efficacy ( $\geq 30$  = present,  $<30$  = absent), and cues to action ( $\geq 30$  = present,  $<30$  = absent). Cut-off values for each construct were determined using the median score of the distribution. This approach has been widely applied in previous studies to categorize respondents into "high" and "low" groups, thereby facilitating comparison across variables and ensuring consistency with the HBM framework.

### **Ethical Clearance**

Ethical approval for this study was obtained from the Health Research Ethics Committee of STIKES Bhakti Husada Mulia, Madiun, Indonesia (No. 036/E-KEPK/STIKES/BHM/XII/2024).

## **RESULT AND DISCUSSION**

The results section presents the findings from the univariate, bivariate, and multivariate analyses. Tables 1 and 2 summarize the univariate results, describing the frequency distributions of participant characteristics and risk factors. Figure 1 illustrates the distribution of the

dependent variable. Table 3 provides the outcomes of the chi-squared tests, while Table 4 shows the results of the binary logistic regression analysis.

As shown in Table 1, most respondents in this study had a history of hypertension and demonstrated positive help-seeking behavior, forming a basis for further analysis of the factors influencing such behavior. The majority of participants reported having a history of hypertension, indicating its common presence in the study population. The sample was dominated by middle-aged adults, with women making up the majority. Most participants had completed secondary education, while only a few had either no formal schooling or higher educational attainment.

Employment status reflected limited participation in formal employment, with many identifying as housewives or being unemployed, and only a small proportion working in the private sector or civil service. Overall, the study population was characterized by older women with moderate educational attainment and limited labor force participation, providing important context for understanding the psychosocial and structural factors shaping help-seeking behavior.

**Table 1.** Individual characteristics of respondents

<b>Variables</b>	<b>f</b>	<b>%</b>
<b>Hypertension history</b>		
No	37	25.3
Yes	109	74.7
<b>Age</b>		
15-24	1	0.7
25-44	21	14.4
45-59	124	84.9
<b>Sex</b>		
Male	20	13.7
Female	126	86.3
<b>Educational attainment</b>		
No education	3	2.1
Elementary school	29	19.9
Junior high school	24	16.4
Senior high school	65	44.5
Diploma	5	3.4
Bachelor	20	13.7
<b>Employment status</b>		
Unemployed	48	32.9
Civil servant/soldier/police	3	2.1
Private employee	40	27.4
Self-employed	5	3.4
Housewife	50	34.2
<b>Total</b>	<b>146</b>	<b>100</b>

As shown in Table 2, respondents generally demonstrated positive health-seeking behavior, with more than three-quarters reporting that they routinely sought medical care, monitored their blood pressure, and followed treatment recommendations. Perceived seriousness was high, as over 80% of respondents recognized hypertension as a serious condition with potentially life-threatening complications, and many expressed concern about uncontrolled blood pressure. Perceived vulnerability was moderate, with approximately two-thirds acknowledging personal risk factors such as poor diet, lack of activity, and family history, while also recognizing that hypertension is not confined to the elderly.

Perceived barriers revealed mixed responses, with cost, time, distance, and transportation reported as obstacles by approximately half of respondents. In contrast, perceived usefulness of treatment was strongly endorsed, with more than 80% agreeing that routine checks, early treatment, and following medical advice are beneficial for preventing complications and maintaining quality of life.

Self-efficacy was moderately high, as most respondents felt confident in their ability to allocate time for treatment, adhere to medication, and manage their condition, although a minority remained uncertain. Finally, cues to action were prominent, with more than 80% reporting that advice from healthcare workers, family support, media exposure, and personal experiences motivated them to seek treatment.

The analysis Table 3 revealed that several factors were strongly associated with help-seeking behavior. Perceived vulnerability, perceived barriers, perceived usefulness, and self-efficacy had significant relationships with help-seeking behavior, each demonstrating large odds ratios. This suggests that individuals who perceived themselves as vulnerable, experienced fewer barriers, believed treatment to be useful, or had high self-efficacy were far more likely to seek help.

For example, respondents who perceived vulnerability or high usefulness were approximately 33 times more likely to seek help, while those perceiving fewer barriers were approximately 47 times more likely to seek help. Self-efficacy also increased the likelihood of help-seeking behavior by approximately 26 times. In contrast, perceived seriousness and cues to action did not show significant associations with help-seeking behavior. Overall, the results suggest that enhancing perceived usefulness, reducing barriers, and strengthening self-efficacy may be effective strategies to improve help-seeking behavior.

**Table 2.** Frequency and percentage distribution of Likert-scale responses for help-seeking behavior, perceived seriousness, perceived vulnerability, perceived barriers, perceived usefulness, self-efficacy, and cues to action

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	f (%)	f (%)	f (%)	f (%)	f (%)
<b>Health-Seeking Behavior</b>					
I go to a health facility if I experience hypertension.	4 (2.7%)	8 (5.5%)	18 (12.3%)	58 (39.7%)	58 (39.7%)
I routinely check my blood pressure at a health facility.	6 (4.1%)	12 (8.2%)	24 (16.4%)	52 (35.6%)	52 (35.6%)
I follow treatment recommendations from healthcare workers.	5 (3.4%)	10 (6.8%)	20 (13.7%)	55 (37.7%)	56 (38.4%)
I prefer treatment at a health center or hospital rather than using alternative medicine.	10 (6.8%)	15 (10.3%)	25 (17.1%)	50 (34.2%)	46 (31.5%)
I take the initiative to seek information or treatment services when needed.	6 (4.1%)	12 (8.2%)	22 (15.1%)	52 (35.6%)	54 (37.0%)
I immediately seek treatment when I experience symptoms of hypertension.	7 (4.8%)	13 (8.9%)	23 (15.8%)	50 (34.2%)	53 (36.3%)
<b>Perceived Seriousness</b>					
Hypertension is a serious disease if left untreated.	2 (1.4%)	5 (3.4%)	15 (10.3%)	60 (41.1%)	64 (43.8%)
Complications of hypertension can be life-threatening.	2 (1.4%)	6 (4.1%)	18 (12.3%)	58 (39.7%)	62 (42.5%)
Hypertension can limit daily activities.	4 (2.7%)	8 (5.5%)	22 (15.1%)	56 (38.4%)	56 (38.4%)
Hypertension reduces quality of life.	5 (3.4%)	10 (6.8%)	25 (17.1%)	54 (37.0%)	52 (35.6%)
I worry if my blood pressure is uncontrolled.	3 (2.1%)	7 (4.8%)	18 (12.3%)	58 (39.7%)	60 (41.1%)
I feel anxious if I do not check my blood pressure.	4 (2.7%)	9 (6.2%)	20 (13.7%)	57 (39.0%)	56 (38.4%)
Delaying treatment increases risk.	3 (2.1%)	8 (5.5%)	19 (13.0%)	58 (39.7%)	58 (39.7%)
Hypertension can cause stroke or heart attack.	2 (1.4%)	6 (4.1%)	16 (11.0%)	60 (41.1%)	62 (42.5%)
Hypertension can lead to hospitalization.	3 (2.1%)	7 (4.8%)	18 (12.3%)	59 (40.4%)	59 (40.4%)
I need to maintain my health due to the serious impact of hypertension.	2 (1.4%)	6 (4.1%)	17 (11.6%)	60 (41.1%)	61 (41.8%)
<b>Perceived Vulnerability</b>					
I may develop hypertension.	6 (4.1%)	12 (8.2%)	25 (17.1%)	56 (38.4%)	47 (32.2%)
Risk increases if I do not maintain my health.	5 (3.4%)	11 (7.5%)	24 (16.4%)	54 (37.0%)	52 (35.6%)
My dietary habits increase risk.	7 (4.8%)	13 (8.9%)	28 (19.2%)	52 (35.6%)	46 (31.5%)
Lack of activity increases risk.	6 (4.1%)	12 (8.2%)	26 (17.8%)	54 (37.0%)	48 (32.9%)
Family history makes me vulnerable.	8 (5.5%)	14 (9.6%)	27 (18.5%)	51 (34.9%)	46 (31.5%)
Heredity increases risk.	7 (4.8%)	13 (8.9%)	25 (17.1%)	54 (37.0%)	47 (32.2%)
Even individuals of productive age are at risk.	5 (3.4%)	10 (6.8%)	22 (15.1%)	56 (38.4%)	53 (36.3%)
Hypertension affects not only the elderly.	4 (2.7%)	9 (6.2%)	20 (13.7%)	58 (39.7%)	55 (37.7%)
Dizziness can be a sign of hypertension.	6 (4.1%)	12 (8.2%)	24 (16.4%)	55 (37.7%)	49 (33.6%)
Early symptoms are important.	5 (3.4%)	11 (7.5%)	23 (15.8%)	56 (38.4%)	51 (34.9%)
<b>Perceived Barriers</b>					
Cost of treatment is burdensome.	20 (13.7%)	25 (17.1%)	35 (24.0%)	40 (27.4%)	26 (17.8%)
I hesitate to seek treatment because of costs.	18 (12.3%)	24 (16.4%)	34 (23.3%)	42 (28.8%)	28 (19.2%)
It is difficult to make time for checks.	15 (10.3%)	22 (15.1%)	33 (22.6%)	46 (31.5%)	30 (20.5%)
Service hours do not match my free time.	14 (9.6%)	20 (13.7%)	32 (21.9%)	48 (32.9%)	32 (21.9%)
Distance to healthcare facilities discourages treatment.	16 (11.0%)	22 (15.1%)	34 (23.3%)	44 (30.1%)	30 (20.5%)

<b>Perceived Usefulness/Benefits</b>					
I feel it is important to know my blood pressure regularly.	3 (2.1%)	6 (4.1%)	18 (12.3%)	58 (39.7%)	61 (41.8%)
Early examination helps me understand my condition more quickly.	2 (1.4%)	6 (4.1%)	16 (11.0%)	60 (41.1%)	62 (42.5%)
Seeking treatment early helps me avoid serious complications.	3 (2.1%)	7 (4.8%)	18 (12.3%)	59 (40.4%)	59 (40.4%)
Hypertension treatment helps prevent other diseases from worsening.	4 (2.7%)	8 (5.5%)	20 (13.7%)	58 (39.7%)	56 (38.4%)
Routine treatment allows me to keep working and remain active.	5 (3.4%)	9 (6.2%)	21 (14.4%)	56 (38.4%)	55 (37.7%)
With treatment, I feel healthier and more energetic.	4 (2.7%)	8 (5.5%)	19 (13.0%)	57 (39.0%)	58 (39.7%)
Regular blood pressure checks help me maintain stability.	3 (2.1%)	7 (4.8%)	18 (12.3%)	60 (41.1%)	58 (39.7%)
I feel calmer when I know my blood pressure is normal.	3 (2.1%)	6 (4.1%)	17 (11.6%)	60 (41.1%)	60 (41.1%)
Following healthcare workers' advice helps control hypertension.	2 (1.4%)	6 (4.1%)	16 (11.0%)	60 (41.1%)	62 (42.5%)
Recommended therapy improves my condition.	3 (2.1%)	7 (4.8%)	18 (12.3%)	58 (39.7%)	60 (41.1%)
<b>Self-Efficacy</b>					
I can still seek treatment even when busy.	6 (4.1%)	12 (8.2%)	22 (15.1%)	54 (37.0%)	52 (35.6%)
I can seek treatment even if the health facility is far.	7 (4.8%)	13 (8.9%)	24 (16.4%)	52 (35.6%)	50 (34.2%)
I am able to make time to check blood pressure.	5 (3.4%)	11 (7.5%)	23 (15.8%)	54 (37.0%)	53 (36.3%)
I adjust schedule seek treatment regularly.	6 (4.1%)	12 (8.2%)	22 (15.1%)	54 (37.0%)	52 (35.6%)
I can manage symptoms of hypertension by consulting medical staff.	4 (2.7%)	9 (6.2%)	20 (13.7%)	56 (38.4%)	57 (39.0%)
I believe I can manage my blood pressure when it is checked.	5 (3.4%)	10 (6.8%)	21 (14.4%)	55 (37.7%)	55 (37.7%)
I can take medicine as prescribed.	4 (2.7%)	9 (6.2%)	19 (13.0%)	57 (39.0%)	57 (39.0%)
I can remember check-up schedules despite being busy.	6 (4.1%)	12 (8.2%)	22 (15.1%)	53 (36.3%)	53 (36.3%)
I can decide when to seek medical help.	5 (3.4%)	11 (7.5%)	23 (15.8%)	54 (37.0%)	53 (36.3%)
I can maintain my health without always being directed by others.	6 (4.1%)	12 (8.2%)	22 (15.1%)	53 (36.3%)	53 (36.3%)
<b>Cues to Action</b>					
I am encouraged check blood pressure after advice from healthcare workers.	4 (2.7%)	8 (5.5%)	20 (13.7%)	56 (38.4%)	58 (39.7%)
Medical explanations motivate me to manage my health regularly.	3 (2.1%)	7 (4.8%)	18 (12.3%)	58 (39.7%)	60 (41.1%)
My family encourages me to maintain my blood pressure.	2 (1.4%)	6 (4.1%)	16 (11.0%)	60 (41.1%)	62 (42.5%)
I am motivated to seek treatment due to support from close ones.	3 (2.1%)	7 (4.8%)	18 (12.3%)	59 (40.4%)	59 (40.4%)
Media information helps me understand the importance of hypertension treatment.	4 (2.7%)	9 (6.2%)	20 (13.7%)	57 (39.0%)	56 (38.4%)
Information from the internet makes me more health-conscious.	5 (3.4%)	10 (6.8%)	21 (14.4%)	55 (37.7%)	55 (37.7%)
Experiencing symptoms makes me aware of the importance of treatment.	6 (4.1%)	12 (8.2%)	22 (15.1%)	53 (36.3%)	53 (36.3%)
Discomfort caused by hypertension motivates me to seek treatment.	5 (3.4%)	11 (7.5%)	23 (15.8%)	54 (37.0%)	53 (36.3%)
Seeing others with complications makes me aware of the importance of treatment.	4 (2.7%)	9 (6.2%)	20 (13.7%)	57 (39.0%)	56 (38.4%)
I learn the importance of controlling blood pressure from others' experiences.	3 (2.1%)	7 (4.8%)	18 (12.3%)	58 (39.7%)	60 (41.1%)

**Table 3.** The association between risk factors and help-seeking behavior in hypertension treatment

Variable	Help-seeking behavior						P-value
	Negative		Positive		Total		
	f	%	f	%	f	%	
<b>Perceived seriousness</b>							
Not serious	0	0	4	100	4	100	0.575
Serious	40	28.2	102	71.8	142	100	
<b>Perceived vulnerability</b>							
Vulnerable	5	100	0	0	5	100	0.001
No vulnerable	35	24.8	106	75.2	141	100	
<b>Perceived barriers</b>							
Yes	26	86.7	4	13.3	30	100	0.000
No	14	12.1	102	87.9	116	100	
<b>Perceived usefulness</b>							
Useless	5	100	0	0	5	100	0.001
Useful	35	24.8	106	75.2	141	100	
<b>Self-efficacy</b>							
Did not have self-efficacy	4	100	0	0	4	100	0.005
Have self-efficacy	36	25.4	106	74.6	142	100	
<b>Cues to action</b>							
Negative	0	0	40	100	40	100	1.000
Positive	1	0.9	105	99.1	106	100	

**Table 4.** Binary logistic regression analysis of risk factors and help-seeking behavior in hypertension treatment

Variable	SE	Wald	B	P-value	Exp(B) (OR)	95% CI
Perceived seriousness	1.404	0.821	-1.272	0.365	0.28	0.01-5.34
Perceived vulnerability	1.297	7.273	3.497	0.007	33	1.78-611.82
Perceived barriers	1.173	10.828	-3.86	<0.001	0.02	0.006-0.07
Perceived usefulness	1.297	7.273	-3.497	0.007	0.03	0.002-0.56
Self-efficacy	1.316	6.169	-3.269	0.013	0.04	0.002-0.73
Cues to action	1.454	0.01	-0.146	0.92	0.87	0.03-21.76

During the analysis, zero cells were identified in several categorical comparisons. As zero cells can bias chi-squared results and produce undefined odds ratios, Fisher’s exact test was used as an alternative where applicable. Odds ratios were reported with caution, and continuity corrections were applied to improve the stability of estimates.

Table 4 demonstrated that help-seeking behavior toward hypertension treatment was strongly influenced by four key factors. Individuals who perceived themselves as vulnerable to hypertension complications were much more likely to seek help (OR = 33; 95% CI: 1.78–611.82). Conversely, those who perceived barriers to accessing healthcare were far less likely to seek treatment (OR = 0.02; 95% CI: 0.006–0.07). Perceiving hypertension treatment as not useful greatly reduced the likelihood of seeking help (OR = 0.03; 95% CI: 0.002–0.56), and having low self-efficacy also lowered the odds (OR = 0.04; 95% CI: 0.002–0.73). In contrast, perceived seriousness (OR = 0.28; p = 0.365) and cues to action (OR = 0.87; p = 0.92) were not significantly associated with help-seeking behavior.

Overall, perceived vulnerability, perceived barriers, perceived usefulness, and self-efficacy emerged as the main factors influencing treatment-seeking behavior toward hypertension. In summary, the majority of respondents demonstrated positive help-seeking behavior, which was significantly associated with perceived seriousness, self-efficacy, and cues to action. Conversely, perceived barriers were negatively related to help-seeking behavior. These findings highlight the central role of psychological and perceptual factors in shaping treatment-seeking decisions and form a basis for the subsequent discussion. The following sections discuss each variable in detail.

Perceived vulnerability was identified as a crucial factor in motivating individuals to seek help for managing their health conditions. For instance, Wu et al. (20) highlight that self-efficacy, which is often related to individuals' belief in their ability to manage hypertension, directly influences their adherence to recommended lifestyle changes and treatment regimens. When individuals perceive themselves as vulnerable to the consequences of

uncontrolled hypertension, this belief can catalyze proactive health-seeking behavior, reinforcing their commitment to managing their health interventions effectively. The finding that perceived seriousness was associated with help-seeking behavior supports the notion that individuals who regard hypertension as a serious health threat are more likely to seek medical care. This is consistent with previous studies that emphasize the role of perceived severity in motivating preventive and treatment behaviors. In addition, cues to action emerged as an important factor, reflecting individuals' readiness to translate perceptions into concrete health actions. Prior research has shown that cues to action often mediate the relationship between health beliefs and actual behavior, underscoring its importance in the context of hypertension management. Together, these results highlight the need for interventions that not only raise awareness of the seriousness of hypertension, but also strengthen individuals' readiness to act on that awareness.(6)

In conjunction with perceived vulnerability, self-efficacy plays an instrumental role in shaping health behaviors. Shen et al. found that individuals with higher levels of self-efficacy demonstrate greater confidence in managing their hypertension, which directly improves medication adherence among patients with hypertension.(21) This correlation enhances the likelihood that these individuals will seek health information and adhere to treatment plans for chronic conditions, including hypertension. The belief that they can effectively manage their health empowers individuals to pursue medical help, adhere to treatment guidelines, and adopt preventive measures. The association between perceived seriousness and help-seeking behavior reflects a psychosocial mechanism whereby individuals who recognize hypertension as a serious threat are more likely to prioritize medical care. However, perceived barriers such as financial constraints or limited access can weaken this motivation, illustrating the tension between awareness and action. Self-efficacy functions as a critical mediator, as individuals with higher confidence in their ability to manage hypertension are better able to overcome barriers and act on their intentions. These findings align with the HBM, which posits that health behavior is shaped not only by risk perception but also by the balance between perceived obstacles and personal capability. Therefore, the psychosocial mechanisms underlying help-seeking behavior highlight the importance of interventions that strengthen self-efficacy and reduce barriers to care.(22)

Moreover, perceived usefulness of treatment was found to significantly influence help-seeking behavior. Studies indicate that when patients believe in the effectiveness and benefits of available treatments, they are more likely to engage with healthcare services.(23,24) For

example, the HBM posits that perceived benefits are crucial motivators for adopting healthy behaviors and seeking medical interventions.(23,25) Therefore, when individuals with hypertension understand that adhering to treatment can lead to positive health outcomes, they are more likely to seek help.(25) This framework has been successfully applied in various interventions aimed at increasing health-seeking behavior among diverse populations, reinforcing the impact of perceived benefits on individuals' willingness to engage with healthcare systems.(12)

In the context of chronic diseases such as hypertension (26), it is essential to understand how these intertwined factors create barriers or facilitate help-seeking. Research by Su et al. reveals that both facilitating factors, such as effective communication with healthcare providers, and hindering factors, such as economic burdens and perceived lack of access, shape individuals' decisions to seek help for chronic illnesses.(27) This highlights the complex landscape of health-seeking behavior, wherein perceived vulnerability, self-efficacy, and the belief in treatment effectiveness collectively influence individuals' proactive engagement in managing their health. The present findings contribute to the development of health behavior theory by refining the HBM in the context of hypertension. Specifically, the results show that perceived seriousness motivates individuals to seek care, but this motivation is weakened when barriers are perceived as high. Self-efficacy emerges as a critical factor that enables individuals to overcome barriers and act on their intentions, while cues to action serve as external triggers that reinforce readiness. These mechanisms suggest that the HBM can be extended by highlighting the moderating role of self-efficacy and the reinforcing role of cues to action, thereby offering a more nuanced understanding of help-seeking behavior.

This study has several limitations. First, the cross-sectional design only captures data at a single point in time (28), preventing the establishment of causality between the studied factors and help-seeking behavior.(27) Second, the use of purposive sampling may introduce selection bias and limit the generalizability of the findings, as the sample may not fully represent the broader population. Third, the reliance on self-reported questionnaires may lead to recall bias and social desirability bias, which could affect the accuracy of the responses provided by participants.

## **CONCLUSION**

This study shows that perceived seriousness, self-efficacy, and cues to action are central to help-seeking behavior, while perceived barriers weaken this relationship. Rather than restating the statistical results, these findings underscore the psychosocial mechanisms that drive treatment-seeking decisions. The contribution of this research lies in refining the Health Belief Model (HBM) by

highlighting the moderating role of self-efficacy and the reinforcing role of cues to action. Practically, the results suggest that interventions should focus on strengthening self-efficacy, reducing barriers, and increasing awareness of hypertension to improve health outcomes among productive-age adults. Therefore, the study provides both theoretical and practical contributions to the literature on health behavior. Perceived seriousness and cues to action were not significant in this study, but they remain important parts of the HBM. Their influence may vary across different populations. In this context, self-efficacy and cues to action played a stronger role, suggesting the need for further research to understand these relationships. In conclusion, this study contributes to the literature by refining the HBM in the context of hypertension. These findings not only advance theoretical understanding of health behavior but also offer practical implications for developing targeted interventions to improve hypertension management among productive-age adults.

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#### **Conflict of Interest**

No potential conflicts of interest relevant to this article were reported.

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