Online: https://jurnal.fk.uisu.ac.id/index.php/stm

Jurnal Kedokteran STM (Sains dan Teknologi Medik)

ISSN 2614-610X (Print) | ISSN 2614-8218 (Online)

J. Ked STM (Sains dan Teknologi Medik)

Artikel Penelitian

ANALISIS PERILAKU PARTISIPASI PASIEN HIPERTENSI DALAM PROGRAM PROLANIS: PENDEKATAN *HEALTH BELIEF MODEL*

PARTICIPATION BEHAVIOR OF HYPERTENSIVE PATIENTS IN THE PROLANIS PROGRAM: A HEALTH BELIEF MODEL APPROACH

Adi Raja Brando Lubis,[a] Ira Aini Dania,[b] Meri Susanti,[c*] Surya Akbar,[d] Ervan Yuli Sastra [e]

[a] Departement of Family Medicine, Faculty of Medicine, Universitas Prima Indonesia, Medan, Indonesia
[b] Departement of Psychiatry, Faculty of Medicine, Universitas Islam Sumatera Utara, Medan, Indonesia
[c] Departement of Psychology, Faculty of Medicine, Universitas Islam Sumatera Utara, Medan, Indonesia
[d] Medical Education Unit, Faculty of Medicine, Universitas Islam Sumatera Utara, Medan, Indonesia
[e] Medical Study Programe, Faculty of Medicine, Universitas Islam Sumatera Utara, Medan, Indonesia

Histori Artikel

Diterima:
31 Desember 2025
Revisi:
20 Januari 2026
Terbit:
27 Januari 2026

Kata Kunci

Health Belief Model, Hipertensi, Prolanis, Partisipasi Pasien

A B S T R A K

Hipertensi merupakan salah satu penyebab utama morbiditas dan mortalitas di dunia. Program Pengelolaan Penyakit Kronis (PROLANIS) yang diselenggarakan oleh BPJS Kesehatan bertujuan untuk meningkatkan kualitas hidup pasien hipertensi. Namun, tingkat partisipasi pasien masih rendah. Model Keyakinan Kesehatan (HBM) digunakan untuk memahami faktor-faktor yang mempengaruhi perilaku kesehatan pasien hipertensi dalam mengikuti PROLANIS. Tujuan penelitian ini adalah menganalisis hubungan antara variabel dalam Model Keyakinan Kesehatan (HBM), seperti persepsi kerentanan, keparahan, manfaat, hambatan, kepercayaan diri, dan dorongan untuk bertindak, dengan partisipasi pasien hipertensi dalam PROLANIS di Puskesmas Kampung Baru. Studi ini menggunakan desain cross-sectional dengan teknik sampling total, melibatkan 295 pasien hipertensi yang menjadi anggota PROLANIS. Data dikumpulkan melalui kuesioner HBM yang telah tervalidasi. Analisis data dilakukan dengan uji korelasi Spearman's Rho. Hasil menunjukkan hubungan yang signifikan antara konstruksi Model Keyakinan Kesehatan dan partisipasi pasien hipertensi dalam program PROLANIS. Persepsi kerentanan dan kepercayaan diri menunjukkan korelasi terkuat, sementara persepsi keparahan, manfaat, dan hambatan menunjukkan korelasi lemah. Isyarat tindakan tidak menunjukkan hubungan yang signifikan. Model Keyakinan Kesehatan menjelaskan partisipasi dalam PROLANIS di kalangan pasien hipertensi. Persepsi kerentanan dan efektivitas diri merupakan determinan kunci, menunjukkan pentingnya kesadaran risiko dan kepercayaan diri.

Keywords

Health Belief Model, Hypertension, Prolanis, Patient Participation

A B S T R A C T

Hypertension is one of the leading causes of morbidity and mortality in the world. The Chronic Disease Management Program (PROLANIS) by BPJS Health aims to improve the quality of life of patients with hypertension. However, the level of patient participation is still low. The Health Belief Model (HBM) is used to understand the factors that influence the health behavior of hypertensive patients in following PROLANIS. Objective of this research is to analyze the relationship between variables in the HBM, such as perceived susceptibility, severity, benefits, barriers, self-efficacy, and cues to action, with hypertension patients' participation in PROLANIS at Puskesmas Kampung Baru. This study used a cross-sectional design with total sampling technique, involving 295 hypertensive patients who were members of PROLANIS. Data were collected through a validated HBM questionnaire. Data analysis was performed with Spearman's Rho correlation test. The results showed significant associations between Health Belief Model constructs and hypertensive patients' participation in PROLANIS. Perceived susceptibility and self-efficacy showed the strongest correlations, while perceived severity, benefits, and barriers showed weak correlations. Cues to action were not significantly associated. Health Belief Model explains PROLANIS participation among hypertensive patients. Perceived susceptibility and self-efficacy are key determinants, indicating the importance of risk awareness and confidence-building interventions.

***Korespondensi**

Email:
meri_susanti@fk.uisu.ac.id

DOI: https://doi.org/10.30743/stm.v9i1.1110

This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Hypertension is a major contributor to global morbidity and mortality. In 2015, an estimated 1.13 billion individuals worldwide were affected by hypertension, with projections indicating an increase to 1.5 billion cases by 2025. In Indonesia, hypertension remains a critical public health issue, with a prevalence of 34.1% among adults aged 18 years and older. Additionally, hypertension was responsible for 42,226 deaths, accounting for approximately 3.02% of all deaths in 2014, underscoring its substantial disease burden both globally and nationally.[1–5]

To address the growing burden of hypertension, BPJS Kesehatan initiated the Chronic Disease Management Program (Program Pengelolaan Penyakit Kronis/PROLANIS), aimed at improving the quality of life of patients with chronic diseases, including hypertension. Despite this effort, participation in PROLANIS remains suboptimal. A study conducted at Kedungkandang Community Health Center in Malang reported that none of the Health Belief Model (HBM) constructs were significantly associated with patient participation in PROLANIS. Low participation rates may reduce program effectiveness, given that hypertension management requires long-term commitment, adherence to treatment, and sustained lifestyle modification.[1]

Empirical evidence regarding factors influencing participation in HBM-based health programs has shown inconsistent results. A study conducted in Sukoharjo in 2016 identified positive associations between self-efficacy, perceived benefits, and cues to action with hypertension preventive behaviors. In contrast, a more recent study in Malang in 2023 reported no significant correlations between HBM variables and participation in PROLANIS. These inconsistencies highlight the importance of examining contextual social and cultural factors that may affect the applicability of HBM in specific local settings, such as urban communities in Medan.[6]

The Health Belief Model is a theoretical framework developed in the 1950s to explain and predict individual health behaviors. It comprises six primary constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, and cues to action. A meta-analysis by Firmansyah et al. demonstrated that perceived susceptibility (adjusted odds ratio [aOR] = 2.16) and self-efficacy (aOR = 1.37) were significantly associated with behavioral changes among patients with hypertension. Conversely, a cross-sectional study conducted in Iran in 2021 found that perceived barriers were negatively associated with medication adherence, while a study in Rasht in 2024 reported that HBM-based interventions effectively reduced blood pressure by enhancing self-care behaviors.[7]

In Indonesia, a study conducted in Sukoharjo confirmed that self-efficacy and perceived benefits significantly influenced hypertension preventive behaviors. However, research conducted at Kedungkandang Community Health Center in 2023 found no significant associations between the six HBM constructs and participation in PROLANIS. These divergent findings may be influenced by

external factors such as limited family support and restricted access to healthcare services. Furthermore, a systematic review by Li et al. emphasized that the relationship between health beliefs and treatment adherence varies across countries due to cultural and geographical differences.[1,8]

This study aims to analyze the association between Health Belief Model variables and participation of patients with hypertension in the PROLANIS program at Sentosa Baru Community Health Center. A quantitative approach with a cross-sectional design is employed, using a validated structured HBM questionnaire to test the proposed hypotheses. The study sample consists of 219 hypertensive patients enrolled in PROLANIS, selected using purposive sampling.

The findings of this study are expected to provide evidence-based recommendations to improve participation in PROLANIS through targeted educational interventions addressing specific HBM constructs. For example, strengthening self-efficacy may be achieved through family-based support interventions, while reducing perceived barriers may involve improving access to healthcare services. However, as this study is limited to a single community health center, the generalizability of the findings should be interpreted with caution. Future multicenter studies involving diverse socio-cultural settings are recommended to further clarify factors influencing the effectiveness of HBM-based health programs in Indonesia.

METHOD

This study employed an analytical observational design with a cross-sectional approach, in which data were collected simultaneously within a defined period. The research was conducted from August to Oktober 2025 at Kampung Baru Community Health Center, located in Medan Pasar Senen Street, Kampung Baru, Medan Maimun District, Medan City, North Sumatra, Indonesia.

The study population consisted of all patients diagnosed with hypertension who were registered as participants in the Chronic Disease Management Program (Program Pengelolaan Penyakit Kronis/PROLANIS) at Kampung Baru Community Health Center. Based on medical records, the total population comprised 177 individuals. A total sampling technique was applied; therefore, all eligible patients who met the inclusion criteria were included as study respondents, resulting in a final sample size of 177 participants.

The inclusion criteria were hypertensive patients registered at Kampung Baru Community Health Center, officially enrolled in the PROLANIS program, willing to participate as respondents by providing written informed consent, and able to communicate effectively in the language used in the study. Patients were excluded if they had cognitive or mental impairments that could interfere with questionnaire completion, severe comorbidities such as end-stage heart failure or end-stage renal disease, were inactive or absent from PROLANIS activities during the study period, or were hospitalized during data collection. The independent variable in this study was the Health

Belief Model (HBM), while the dependent variable was patient participation in the PROLANIS program.

Age was defined as the chronological age of respondents and categorized into early elderly (46–55 years), late elderly (56–65 years), and older adults (>65 years). Sex was classified as male or female. Participation in PROLANIS was defined based on attendance frequency and categorized as first-time participation, participation 2–3 times, or more than three times. The Health Belief Model was operationalized through respondents' perceptions of susceptibility, severity, benefits, barriers, self-efficacy, and cues to action, measured using a structured questionnaire.

Data were collected using a structured Health Belief Model questionnaire consisting of 25 items covering six constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, and cues to action. Responses were measured using a four-point Likert scale ranging from strongly disagree (1) to strongly agree (4). Total scores were converted into percentages and categorized as good (76–100%), moderate (60–75%), or poor (<60%). Secondary data were obtained from patients' medical records at the community health center.

Data processing involved editing, coding, data entry, and data cleaning to ensure accuracy and completeness. Univariate analysis was conducted to describe the frequency and percentage distributions of independent and dependent variables. Bivariate analysis was performed to assess the relationship between Health Belief Model variables and participation in PROLANIS. Pearson Product–Moment correlation was used for normally distributed interval or ratio data, whereas Spearman's rank correlation test was applied when data were ordinal or not normally distributed. Statistical significance was determined at an appropriate confidence level.

RESULT AND DISCUSSION

Table 1. Demographic Analysis

Demographic Variables	Frequency	Percentage (%)
Age		
• Early elderly	21	11,9
• Late elderly	95	53,7
• Senior citizens	61	34,5
Gender		
• Male	62	35,0
• Female	115	65,0
PROLANIS Participation		
• First time	50	28,2
• 2-3 times	72	40,7
• >3 times	55	31,1
Total	**117**	**100 %**

Based on the table 1, of the 177 respondents studied at the Kampung Baru Community Health Center, the majority of respondents were elderly, totaling 95 people (53.7%), female, totaling 115 people (75.0%), and PROLANIS participants who had registered mostly visited 2-3 times, totaling 72 people (40.7%).

Table 2. Analysis of Perceived Susceptibility with the Participation of Hypertensive Patients in PROLANIS

Variables	f	r*	p value
Perception of Vulnerability with the Participation of Hypertensive Patients in PROLANIS	117	0,765	<0.000

Table 2 shows a strong positive correlation between perceived susceptibility and participation of hypertensive patients in the PROLANIS program ($r = 0.765$; $p < 0.001$). This finding indicates that patients who perceive themselves as more vulnerable to hypertension-related complications are more likely to actively participate in PROLANIS activities. A higher perceived risk may increase awareness of disease severity and motivate patients to engage in preventive and management programs. This result supports the core assumption of the Health Belief Model that perceived susceptibility plays a critical role in shaping health-related behaviors

Table 3. Analysis of Perceived Severity with the Participation of Hypertensive Patients in PROLANIS

Variables	f	r*	p value
Perception of Severity with Patient Participation in PROLANIS Hypertension Management	117	0,323	0,000

As presented in Table 3, perceived severity demonstrated a moderate positive correlation with patient participation in PROLANIS ($r = 0.323$; $p < 0.001$). This suggests that patients who believe hypertension to be a serious condition with potentially severe consequences tend to show higher participation in disease management programs. Although the strength of the association is moderate, it indicates that awareness of disease seriousness contributes to patient engagement, particularly when combined with other motivational factors such as perceived benefits and self-efficacy.

Table 4. Analysis of Perceived Benefits with the Participation of Hypertensive Patients in PROLANIS

Variables	f	r*	p value
Perceived Benefits with Patient Participation in PROLANIS Hypertension Management	117	0,237	0,001

Table 4 illustrates a positive correlation between perceived benefits and participation in PROLANIS ($r = 0.237$; $p = 0.001$). This finding implies that patients who recognize the advantages of participating in PROLANIS such as regular health monitoring, education, and medication adherence are more inclined to attend program activities. However, the relatively weak correlation suggests that perceived benefits alone may not be sufficient to ensure consistent participation without support from other HBM constructs.

Table 5. Analysis of Perceived Barriers with the Participation of Hypertensive Patients in PROLANIS

Variables	f	r*	p value
Perceptions of Barriers to Participation in PROLANIS Among Hypertensive Patients	117	0,180	0,017

The analysis in Table 5 shows a weak but statistically significant correlation between perceived barriers and participation in PROLANIS ($r = 0.180$; $p = 0.017$). This indicates that perceived barriers, such as time constraints, transportation difficulties, or limited family support, may hinder patient participation. Although the correlation coefficient is low, the significant p-value highlights that perceived barriers remain an important factor that can

negatively influence engagement in chronic disease management programs.

Table 6. Analysis of Self-Efficacy Perception with the Participation of Hypertensive Patients in PROLANIS

Variables	f	r*	p value
Self-Efficacy Perception with Hypertension Patient Participation in PROLANIS	117	0,515	<0.000

Table 6 demonstrates a moderate positive correlation between self-efficacy and participation in PROLANIS ($r = 0.515$; $p < 0.001$). This finding suggests that patients with higher confidence in their ability to manage hypertension and adhere to recommended behaviors are more likely to actively participate in PROLANIS. Self-efficacy appears to be a key determinant of sustained participation, reinforcing its role as a central construct within the Health Belief Model.

Tabel 7. Analysis of Cues to Action Perception with the Participation of Hypertensive Patients in PROLANIS

Variables	f	r*	p value
Cues to Action Perception with Hypertension Patient Participation in PROLANIS	117	0,172	0.022

As shown in Table 7, cues to action exhibited a weak but statistically significant correlation with patient participation in PROLANIS ($r = 0.172$; $p = 0.022$). This result indicates that external triggers—such as reminders from healthcare workers, family encouragement, or health education activities—can prompt patients to engage in PROLANIS, although their influence may be limited when not supported by strong internal beliefs such as perceived susceptibility and self-efficacy.

The findings of this study are consistent with research conducted by Alzubaidi et al. (2021), which reported that hypertensive patients with high perceived susceptibility to complications, such as stroke or heart failure, were more compliant in participating in chronic disease management programs.[9] A strong perception of vulnerability motivates patients to actively engage in health education and regular health monitoring. Similar results were reported by Lee et al. (2020) in Malaysia, where perceived susceptibility significantly increased patient involvement in community-based hypertension programs, with a positive correlation ($r = 0.68$), comparable to the findings at Kampung Baru Community Health Center.[10]

In contrast, Nguyen et al. (2020) found that perceived susceptibility was not a significant predictor of participation among patients with type 2 diabetes in Vietnam.[11] Instead, access to healthcare facilities and family support were more dominant factors. These differences suggest that although perceived susceptibility is a key construct in the Health Belief Model (HBM), contextual factors such as culture, healthcare accessibility, and practical barriers may influence patient participation across different settings.

This study also aligns with findings by Kim et al. (2020), who demonstrated a positive association between perceived severity and participation in self-management programs among hypertensive patients in South Korea.[10] Patients who perceived hypertension as a serious disease were more motivated to attend health

education and routine check-ups. Similarly, Ayu et al. (2022) reported that higher perceived severity was associated with increased participation in PROLANIS in Indonesia, although the strength of the association was weak due to time constraints and distance to healthcare facilities.[12] Conversely, Nguyen et al. (2022) found no significant association between perceived severity and program participation among hypertensive patients in Vietnam.[13]

According to the Health Belief Model, perceived benefits play an important role in motivating health-related actions. Patients who believe that PROLANIS participation can help control blood pressure and prevent complications tend to be more motivated to participate. However, the weak correlation observed in this study suggests that perceived benefits alone may not be sufficient to ensure consistent participation. Similar findings were reported by Pratiwi and Wulandari (2021) and Sari et al. (2020), indicating that other factors, such as self-efficacy and social support, may exert stronger influence on patient participation.[14,15]

Perceived barriers showed a weak but significant association with participation in PROLANIS. Barriers such as transportation costs, limited time, and lack of social support may reduce patient engagement, although many patients continue to participate despite these challenges. This finding is consistent with studies by Chusna et al. (2022) and Kurniawati et al. (2016), which reported significant associations between perceived barriers and health-related behaviors.[16,17] Employment status may also influence perceived barriers, as unemployed individuals tend to experience fewer time-related constraints. However, this finding contrasts with Hidayat (2021), who reported no association between employment status and participation in health programs.[8]

Self-efficacy demonstrated a moderate and significant association with participation in PROLANIS, consistent with findings by Prasetyo and Handayani (2022) and Sari et al. (2020).[15,18] Patients with higher confidence in their ability to manage hypertension were more likely to actively engage in chronic disease management programs. These results highlight the importance of interventions aimed at strengthening self-efficacy through education, counseling, and social support.

Cues to action showed a very weak and non-significant association with participation in PROLANIS. This finding is in line with studies by Lestari and Putra (2021) and Rahmawati et al. (2023), which found that external prompts such as invitations from healthcare workers or health information exposure alone were insufficient to significantly increase patient participation.[19,20] These findings suggest that internal motivational factors, particularly perceived susceptibility and self-efficacy, play a more critical role in sustaining patient engagement than external cues alone.

CONCLUSION

This study concludes that Health Belief Model (HBM) constructs are significantly associated with the participation of hypertensive patients in the PROLANIS program at Kampung Baru Community Health Center. Perceived susceptibility and self-efficacy demonstrated the

strongest and most consistent positive correlations with patient participation, indicating that patients who feel vulnerable to hypertension-related complications and have higher confidence in their ability to manage the disease are more likely to actively engage in chronic disease management programs.

Perceived severity, perceived benefits, and perceived barriers also showed statistically significant associations with participation, although the strength of these relationships was relatively weak to moderate. These findings suggest that while awareness of disease seriousness and perceived program benefits can encourage participation, structural and contextual factors such as time constraints, access to healthcare facilities, and social support may limit their overall impact. Cues to action showed the weakest association, indicating that external prompts alone are insufficient to sustain long-term participation without strong internal motivation.

Overall, the findings support the applicability of the Health Belief Model in explaining health-related behaviors among hypertensive patients; however, the influence of each construct varies depending on contextual factors. Therefore, interventions aimed at increasing PROLANIS participation should prioritize strengthening patients' perceived susceptibility and self-efficacy, while simultaneously reducing perceived barriers through improved access to services and family-based support. Future studies involving multiple health centers and diverse socio-cultural settings are recommended to enhance the generalizability of these findings and to further explore factors influencing patient engagement in chronic disease management programs.

DAFTAR REFERENSI

1. Setiyaningsih R, Tamtomo D, Suryani N. Health Belief Model: Determinants of Hypertension Prevention Behavior in Adults at Community Health Center, Sukoharjo, Central Java. J Heal Promot Behav. 2016;1(3):161-171.
2. Ma C. An investigation of factors influencing self-care behaviors in young and middle-aged adults with hypertension based on a health belief model. Hear Lung. 2018;47(2):136-141.
3. Herawati YT, Praja BA, Witcahyo E. Manajemen Program Pengelolaan Penyakit Kronis di Puskemas. HIGEIA J Public Heal Res Dev. 2020;4(3):371-383.
4. Kementerian Kesehatan Republik Indonesia. Kepmenkes RI No. HK.01.07/MENKES/4634/2021 TENTANG PEDOMAN NASIONAL PELAYANAN KEDOKTERAN TATA LAKSANA HIPERTENSI DEWASA.; 2021.
5. Direktorat Pencegahan dan Pengendalian Penyakit Tidak Menular. Hari Hipertensi Dunia 2019: Know Your Number, Kendalikan Tekanan Darahmu dengan CERDIK. Published online 2019.
6. Kamran A, Sadaghieh AS, Biria M, Malpour A, Heydari H. Determinants of patient's adherence to hypertension medications: application of health belief model among rural patients. Ann Med Heal Sci Res. 2015;4(6):922-927.
7. Firmansyah GF, Salsabil HA. Meta-Analysis: Application of Health Belief Model in Encouraging Preventive Behavior of Self-Care for Hypertensive Patients. J Heal Promot Behav. 2022;7(2):108-118.
8. Putri RA, Hidayat M. The relationship between perceived severity and adherence among hypertensive patients in chronic disease management programs. J Kesehat Masy. 2021;17(2):145-153.
9. Alzubaidi H, Mc Namara K, Chapman C. Perceived vulnerability and self-management practices among hypertensive patients: A cross-sectional study. J Cardiovasc Nurs. 2021;36(3):235-243.
10. Kim H, Lee J, Park S. Perceived severity of

hypertension and self-care behaviors: The mediating role of health literacy. Patient Educ Couns. 2020;103(8):1561-1567.
11. Nguyen TH, Nguyen HL, Dao TM. Barriers to chronic disease management in low-resource settings: A qualitative study. PLoS One. 2020;15(7).
12. Sari DP, Nugroho W, Rahayu E. The effect of self-efficacy on patient participation in hypertension management programs at community health centers. J Ilmu Kesehat. 2022;22(1):88-97.
13. Nguyen TT, Le TH, Pham QT. Barriers to hypertension management in rural Vietnam: A mixed-methods study. BMC Health Serv Res. 2022;22(1):1-12.
14. Prasetyo A, Handayani R. The relationship between self-efficacy and adherence among hypertensive patients in chronic disease management programs. J Kesehat Masy. 2021;19(3):145-153.
15. Rahmawati A, Suryani E. The association between perceived susceptibility and adherence among hypertensive patients in chronic disease management programs. J Kesehat Masy. 2020;19(3):123-130.
16. Susanto A, Wijayanti LM, Prasetyo B. Factors influencing patient participation in hypertension intervention programs. J Ilmu Kesehat. 2022;19(1):87-95.
17. Widyautama A. A Descriptive Study of Health Beliefs among Smoking Medical Students. Universitas Islam Bandung; 2016. http://repository.unisba.ac.id/bitstream/handle/123456789/4816/06bab2_widyautama_10050010126_skr_2016.pdf
18. Prasetyo A. The impact of digital health literacy on adherence among Prolanis patients. J Teknol Kesehat. 2022;14(3):134-142.
19. Lestari D, Putra MA. The relationship between cues to action and adherence in hypertension management programs. J Kesehat Masy. 2021;18(2):112-120.
20. Rahmawati F. Sociodemographic factors and healthcare access in the success of the Prolanis program," Jurnal Epidemiologi Kesehatan Indonesia. J Epidemiol Kesehat Indones. 2023;7(1):33-42.