Indonesian Journal of Global Health Research
Volume 8 Number 2, April 2026
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

THE RELATIONSHIP BETWEEN SELF-EFFICACY AND THE ABILITY TO PERFORM PHYSICAL ACTIVITIES IN PATIENTS WITH HYPERTENSION

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ABSTRACT
Hypertension is one of the major health problems in Indonesia that contributes significantly to increased morbidity and mortality due to cardiovascular disease. Physical activity has been proven effective in controlling blood pressure, but the level of compliance of hypertensive recipients with physical activity is still low. One of the psychological factors that plays a role is self-efficacy, which is an individual's belief in their ability to perform a behavior. This study aims to determine the connection between self-efficacy and the ability to perform physical activity in hypertensive patients. This study used a correlational design on 108 hypertensive patients selected through purposive sampling. The instruments used were the Exercise Self-Efficacy Scale (ESES) and the International Physical Activity-Short Form (IPAQ-SF) Indonesian version, which have good validity and reliability (Cronbach's Alpha ESES = 0.78–0.92; ICC = 0.91; Cronbach's Alpha IPAQ-SF = 0.884; S-CVI = 0.94). The data were analyzed using the Chi-Square test. The outcomes showed a significant connection among self-efficacy and the ability to perform physical activity ($p < 0.05$). These outcomes indicate that participants with high self-efficacy tend to perform moderate to high levels of physical activity contrasted to participants with low self-efficacy.

Keywords: hypertension; physical activity; self-efficacy

How to Cite (in APA Style)
Natalia, E. D., & Pribadi, D. R. A. (2026). The Relationship Between Self-Efficacy and the Ability to Perform Physical Activities in Patients with Hypertension. *Indonesian Journal of Global Health Research*, *8*(2), 1003–1010. https://doi.org/10.37287/ijghr.v8i2.695.

INTRODUCTION

Hypertension is a chronic medical condition in which blood pressure in the arteries is persistently elevated. Globally, this condition is one of the main risk factors for cardiovascular disease and premature death. According to the WHO Global Report (2023), hypertension remains a serious problem worldwide, affecting more than one billion people. Despite its high prevalence, efforts to diagnose, treat, and control hypertension remain low, with only 54% of adults diagnosed, 42% receiving treatment, and only 21% successfully controlled (Kario et al., 2024). Hypertension is also a serious challenge in Indonesia. According to the 2023 Indonesian Health Survey (SKI), the prevalence of hypertension among people aged 18 years and older reached 29.2%. Although this figure appears to have decreased compared to the 2018 data, which showed a prevalence of 34.1%, this decline does not reflect a significant improvement because there are still many cases of hypertension that remain undetected or are not properly treated (Azra, 2025).

Hypertension is a condition in which systolic blood pressure is consistently ≥140 mmHg or diastolic blood pressure is consistently ≥90 mmHg (Charchar et al., 2024). Hypertension is often referred to as the "silent killer" because its symptoms are not specific, so many sufferers are unaware of their condition until serious complications arise (Bhattacharya et al., 2025). Hypertension has a wide-ranging impact, both physically and psychologically. Physically, uncontrolled high blood pressure can cause various serious complications in vital organs. Individuals with high blood pressure have a greater risk of coronary heart disease, ischemic heart disease, myocardial infarction, ventricular hypertrophy, stroke, and chronic kidney disease (Oh & Cho, 2020). Psychologically, people with hypertension often experience a significant increase in anxiety. This condition arises not only as a

reaction to the diagnosis of a chronic disease, but is also influenced by uncertainty about the effectiveness of treatment and concerns about possible complications (Qiu et al., 2023).

One effective approach to managing hypertension is through regular physical activity. Recommended types of physical activity include aerobic exercises such as brisk walking, cycling, or swimming for 150-300 minutes per week at moderate intensity, or 75-150 minutes per week at vigorous intensity. Physical activity can lower systolic blood pressure by 8.3 mmHg and diastolic blood pressure by 5.2 mmHg (Charchar et al., 2024). In addition to lowering blood pressure, physical activity also provides significant benefits for physical and psychological health. Physically, regular physical activity can improve functional capacity, improve body composition, reduce weight, and reduce the risk of complications, including heart disease. Psychologically, physical activity can improve mood, reduce levels of depression and anxiety, and have a positive effect on quality of life (An et al., 2020).

According to Bandura (1997), an individual's belief in their ability to perform an action greatly determines the consistency of that behavior (Wei et al., 2025). In the context of health, individuals with high self-efficacy are more likely to initiate and maintain healthy behaviors, including regular physical activity, contrasted to hypertensive recipients with low self-efficacy (Bellinger et al., 2025). Previous research shows that self-efficacy is a significant determinant of self-care behaviors in hypertensive recipients. Self-care behaviors include regular physical activity, medication adherence, avoiding smoking, and maintaining ideal body weight (Upoyo et al., 2025).

Self-efficacy plays a crucial role in encouraging hypertensive individuals to participate in and maintain regular physical activity (Li et al., 2024). An individual's belief in their own abilities is a determining factor in overcoming obstacles, increasing motivation, and maintaining an active lifestyle that contributes to blood pressure control (Tan et al., 2021). Given the crucial role of self-efficacy in promoting healthy behavior, research on the connection among self-efficacy and the ability to perform physical activity in people with hypertension is highly relevant. In Indonesia, studies on the connection between these two variables are still limited, especially among rural populations who have a background in physical labor but may not necessarily have high self-confidence in exercising regularly. Therefore, this study was conducted to contribute to the limited existing literature with the aim of determining the significant connection between self-efficacy and the ability to perform physical activities among hypertensive recipients.

METHOD

This study is a quantitative study with a correlational design and uses a cross-sectional approach that aims to analyze the connection among self-efficacy as an independent variable and the ability to perform physical activity as a dependent variable in hypertensive recipients. This study was conducted on hypertensive recipients at the Sambirejo Community Health Center in August 2025. The total population during the period of October-December 2024 was 2,226 hypertensive patient. The sample size was determined using G*Power version 3.1 with the assumption of a Chi-Square test ($\alpha = 0.05$; $(1–\beta) = 0.80$; $w = 0.3$; $df = 2$), resulting in a minimum sample size of 108 participants. Sampling was conducted using purposive sampling.

Data collection was conducted through the distribution of questionnaires consisting of two instruments, namely the Exercise Self-Efficacy Scale (ESES) and the International Physical Activity Questionnaire-Short Form (IPAQ-SF). The ESES instrument was used to assess participants' level of self-efficacy in performing physical activity using a 1-4 Likert scale, while the IPAQ-SF was used to assess participants' level of physical activity, which was categorized as light, moderate, and heavy based on the intensity and duration of the activity performed. Based on the outcomes of research by Hakim et al. (2020), the Indonesian version of the ESES has a three-factor structure with 16 items that explain 62.3% of the variance, with a Cronbach's Alpha value of 0.78-

0.92 and an Interclass Correlation Coefficient (ICC) of 0.91, so it is declared valid and reliable for use in the Indonesian population. Meanwhile, research by Dharmansyah & Budiana (2021) shows that the Indonesian version of the IPAQ-SF instrument has a Kaiser-Meyer-Oklin (KMO) value of 0.910, Bartlett's test of sphericity $\chi^2 = 573.434$ (df = 28, $p < 0.001$), and Cronbach's Alpha of 0.884, with a Scale Content Validity Index (S-CVI) of 0.94, indicating excellent validity and reliability. Thus, both instruments are considered feasible and appropriate for use in this study without retesting. Data analysis was performed univariately to describe the distribution of participant characteristics and bivariately to assess the connection among self-efficacy and the ability to perform physical activities. The connection among variables was tested using Chi-Square. This study has obtained ethical approval by the Research Ethics Committee of the Faculty of Health Sciences, Muhammadiyah University Surakarta, with number 1475/KEPK-FIK/VIII/2025.

RESULT

This study involved 108 participants with hypertension. Participant characteristics included age, gender, highest level of education, occupation, and duration of hypertension. In addition to demographic characteristics, this study also assessed two main variables: self-efficacy and physical activity ability.

Table 1.
Participant Characteristics (n=108)

Participant Characteristics	f	%
Age		
50-59 years	38	35.2
60-69 years	70	64.8
Gender		
Male	27	25
Female	81	75
Highest level of education		
No schooling	10	9.3
Elementary	43	39.8
Junior High School	40	37
Senior High School	15	13.9
Occupation		
Not working	10	9.3
Self-employed	44	40.7
Farmer	53	49.1
Duration of Hypertension		
<1 year	14	13
1-5 years	78	72.2
>5 years	16	14.8

Based on Table 1, most of the hypertensive patients at the Sambirejo Community Health Center were in the 60-69 age group, numbering 70 people (64.8%), and were female, numbering 81 people (75.0%). Based on the highest level of education, the largest number of respondents were elementary school graduates, totaling 43 people (39.8%). Based on occupation, most worked as farmers, totaling 53 people (49.1%). The longest duration of hypertension was 1-5 years, totaling 78 people (72.2%).

Table 2.
Frequency and Percentage Distribution of Self-Efficacy in Patients with Hypertension

Self-Efficacy	f	%
Low	34	31.5
High	74	68.5

Table 2 shows that 74 participants (68.5%) had high self-efficacy, and 34 participants (31.5%) had low self-efficacy.

Table 3.
Frequency and Percentage Distribution of Physical Activity Ability in Patients with Hypertension

Ability to Perform Physical Activities	f	%
Mild	40	37
Moderate	63	58.3
Weight	5	4.6

Table 3 shows that 63 participants (58.3%) had moderate physical activity capacity, 40 participants (37.0%) had mild physical activity capacity, and 5 participants (4.6%) had severe physical activity capacity.

Table 4.
Connection among Self-Efficacy and Ability to Perform Physical Activities in Patients with Hypertension

Variable	X^2	df	P-Value
Self-Efficacy and Ability to Perform Physical Activities	6.767[a]	2	0.034

Table 4 shows that the outcomes of the analysis using the Chi-Square test indicate a significant connection among self-efficacy and physical activity ability in hypertensive patient, with a p-value = 0.034 ($p < 0.05$).

DISCUSSION

Based on the study results, the characteristics of participants with hypertension in the Sambirejo Community Health Center working area show that most are in the 60-69 age group, female, have a basic education level (elementary school), work as farmers, and have suffered from hypertension for 1-5 years. These outcomes illustrate that hypertension is more prevalent among the elderly, where physiological changes such as increased blood vessel stiffness, decreased kidney function, and imbalances in the body's nervous and hormonal systems cause blood pressure to rise easily. Additionally, factors such as oxidative stress, inflammation, and metabolic disorders also play a role in worsening hypertension in the elderly (Chen et al., 2025). These outcomes are in line with the research by Sutanto et al. (2025) that explains that the risk of cardiovascular disease, including hypertension, increases in individuals over the age of 55 due to the degenerative processes that occur naturally as a result of aging. The predominance of female participants illustrates that the prevalence of hypertension is greater in women, especially after menopause. The decrease in estrogen hormones during this period causes a reduction in the ability of blood vessels to relax and increases blood pressure. The decrease in estrogen levels due to aging causes an increase in arterial stiffness, thereby increasing cardiovascular risk in older women (Daniel et al., 2023).

Most participants had a basic education level (elementary school), indicating limitations in understanding health information and managing chronic diseases such as hypertension. This shows that a low level of education can be a barrier to understanding health information and managing chronic diseases such as hypertension. According to Maluwa et al. (2025), education plays a crucial role in shaping a person's knowledge, attitudes, and behaviors toward blood pressure control. Individuals with low levels of education tend to have limited understanding of their own health conditions, including the importance of self-management of hypertension. This lack of knowledge results in a lack of awareness to make lifestyle changes such as maintaining a healthy diet, engaging in regular physical activity, and adhering to prescribed medication (Phuangkhem et al., 2025).

Most participants work as farmers, but not all have high levels of physical activity. This indicates that the profession of farming is not always synonymous with heavy physical activity. Many

participants engage in light to moderate physical activity, influenced by advanced age or declining physical condition. Some elderly people tend to limit their physical activity due to concerns about fatigue or increased blood pressure during activity (Turesson et al., 2025). This condition highlights the need for education on the importance of measured physical activity tailored to personal abilities. Physical activities such as walking or senior gymnastics can provide cardiovascular benefits without placing excessive strain on the body's systems (Ding et al., 2025).

The duration of hypertension is also a factor that needs to be considered. The majority of participants were found to have suffered from hypertension for 1-5 years, indicating that they already have experience in undergoing treatment and adapting to chronic conditions. However, at this stage, blood pressure fluctuations still occur frequently due to suboptimal treatment compliance and unstable lifestyles (Manoharan et al., 2025). The longer a person has hypertension without proper lifestyle management, the greater the risk of complications such as coronary heart disease, stroke, and kidney dysfunction such as chronic kidney failure (Sharma et al., 2025).

Most participants were able to perform physical activities at a moderate level. This indicates that despite many participants being elderly with chronic conditions, they were able to maintain adequate physical activity. Physical activity is a very crucial non-pharmacological management strategy for people with hypertension, where aerobic exercise effectively lowers blood pressure with reductions increasing with duration and intensity of activity, particularly at the threshold of 150 minutes of moderate-intensity activity per week or 75 minutes of vigorous physical activity per week (Hejazi et al., 2025). In addition to lowering blood pressure, regular physical activity can also reduce the risk of complications related to hypertension, such as ischemic heart disease, heart failure, and chronic kidney disease, thereby contributing to a reduction in the long-term burden of disease (Bae et al., 2025).

The ability to perform physical activity is closely related to a person's level of self-efficacy. Individuals with high self-efficacy have a stronger belief in remaining physically active despite limitations, while individuals with low self-efficacy tend to be passive because they feel incapable (Xie et al., 2020). This aligns with Bandura's theory (1997), which states that self-efficacy is a primary factor influencing health behavior, including the ability to maintain physical activity in individuals with chronic illnesses (Almutary & Tayyib, 2020).

CONCLUSION

The results of this study indicate that there is a significant connection between self-efficacy and the ability to perform physical activity in people with hypertension. Individuals with greater levels of self-efficacy tend to have better ability and consistency in performing physical activity compared to individuals with low self-efficacy. These results confirm that self-confidence in personal abilities plays a crucial role in the implementation of health behaviors that support blood pressure control.

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