Nursing Journal
Volume 11, Issue 1, Page 292-297
e-ISSN: 2354-6050

https://ejurnal.poltekkesjakarta3.ac.id/index.php/JKep
DOI:https://doi.org/10.32668/jkep.v11i1.2352

CORRELATION BETWEEN SELF-EFFICACY AND PHYSICAL ACTIVITY OF ELDERLY PEOPLE WITH HYPERTENSION

Puspita Hanggit Lestari
Mia Fatma Ekasari
Raden Siti Maryam
Siti Badriah
Verra Widhi Astuti

Politeknik Kesehatan Kementerian Kesehatan Jakarta III, Bekasi, Jawa Barat, Indonesia

*email: puspita.hanggit@gmail.com

Keywords:
Elderly
Hypertension
Physical activity
Self-efficacy

Abstract

Lack of physical activity in the elderly affects the incidence of hypertension in the elderly. High self-efficacy can help people maintain energy during physical activity. This study aims to determine the relationship between self-efficacy and physical activity in the elderly with hypertension. The research design used is descriptive analytic with a cross-sectional approach involving 106 elderly people. The questionnaires General Self-Efficacy Scale (GSES) and Global Physical Activity Questionnaire (GPAQ). The data analysis in this study used the Chi-Square test. The results of the study found that the self-efficacy of the majority of the elderly was in the high category (52.8%), and physical activity in the majority of elderly with hypertension was in the low category (51.9%). The results of the Chi-Square test showed a relationship between self-efficacy and physical activity in the elderly with hypertension. a p-value of 0.030 (<0.05). Elderly people who have high self-efficacy engage in physical activity in the high category. Self-efficacy plays a role in maintaining motivation to do physical activity. Health workers need to include self-efficacy-boosting and activity interventions to improve the effectiveness of hypertension management programs.

Received: December 2025
Accepted: January 2026
Published: May 2026

INTRODUCTION

Health problems in the elderly increase with aging and the natural decline in body function. Hypertension is a common condition among the elderly. The population aged 65 years and over is projected to increase from around 761 million in 2021 to around 1.6 billion in 2050 (1). According to the 2018 Basic Health Research (Riskesdas), the prevalence of hypertension in the 55-64 age group was 55.2%, 63.2% in the 65-74 age group, and 68.5% in the 75-plus age group. (2). By 2023, the prevalence of hypertension in the 65-74 age group was 57.8%, and 64% in the 75-plus age group. (3). Uncontrolled hypertension in the elderly can increase and lead to complications and death. Complications that can occur due to hypertension include heart disease, stroke, kidney disease, retinopathy (retinal damage), peripheral vascular disease, nerve disorders, and cerebral (brain) disorders. (4). The higher the blood pressure, the higher the risk of damage to the heart and blood vessels in large organs such as the brain and kidneys.

High blood pressure, or hypertension, is generally caused by an unhealthy lifestyle and lack of exercise. Lifestyle factors such as obesity due to lack of exercise and smoking after the age of 40 contribute to high blood pressure, which impedes blood circulation throughout the body. Lack of physical activity in the elderly contributes to the incidence of hypertension in the elderly. (5).

Physical activity is any bodily movement carried out by skeletal muscle contractions, increasing energy expenditure. (6). Physical activity in daily life can be divided into work, sports, household activities, and other activities. Physical activity is any bodily movement that

requires energy, such as walking, dancing, caring for grandchildren, and other activities.

Physical activity is one activity that can be performed by the elderly, utilizing energy and calories in the body. Physical activities in the elderly include walking, gymnastics, gardening, housework, and many more. Factors influencing physical activity include knowledge, education level, environmental factors, self-efficacy, and healthcare services. (7). A factor strongly associated with physical activity is self-efficacy (8).

Self-efficacy, or the level of confidence a person has, influences their success in performing a particular activity. (9). Self-efficacy plays a role in maintaining motivation for physical activity. (10). Higher self-efficacy can help people maintain energy during exercise or physical activity, and they can report more positive effects during or after physical activity and feel more relaxed.

Several previous studies have consistently demonstrated the role of psychology in hypertension management. One study found that older adults with low self-efficacy tended to avoid physical activity due to fear of sudden cardiac complications. (11). Similarly, another study showed that self-efficacy was a stronger predictor of exercise adherence than knowledge about hypertension itself. (12). However, most of the existing literature focuses on the general adult population. There remains a data gap regarding how specific physical barriers in older adults—such as decreased muscle mass and joint pain—influence the relationship between self-efficacy and willingness to remain physically active.

This study aims to determine the relationship between self-efficacy and physical activity in elderly people with hypertension. The results can be used as input in developing health education intervention programs to increase physical activity and manage hypertension in the elderly.

METHOD

The research design used was descriptive analytic with a cross-sectional approach. The research sample was determined by purposive sampling, with a sample of 106 people using the Slovin formula. The selection of the Slovin Formula is based on the consideration that this formula provides an acceptable level of precision in community nursing research, where researchers want to ensure that a sample of 106 respondents has a strong representation of the characteristics of the elderly population with hypertension in the area, with a 95% confidence level. The research took place for 3 months in DKI Jakarta. The inclusion criteria for this study were elderly people aged ≥ 60 years, diagnosed with hypertension by a doctor, and elderly people who were regularly taking antihypertensive medication. Data were collected using the General Self-Efficacy Scale (GSES) and the Global Physical Activity Questionnaire (GPAQ). The validity of the GSES obtained Pearson Product-Moment value shows that all items have a calculated r value > r table (0.361), so it is declared valid. The GSES questionnaire has a Cronbach's Alpha value of 0.86, which means this instrument has high reliability. The GPAQ has been tested internationally and locally. The validity test results show a significant correlation value ($p < 0.05$) against objective measurements. The reliability of the GPAQ shows a stability coefficient (Kappa) value ranging from 0.67 to 0.73, indicating that this instrument is consistent for use in the elderly population. Data analysis used the chi-square to test the significance of the relationship between two categorical variables. This research has ethical approval from Poltekkes Jakarta III with the number DP.04.03/F.XI.22/6066/2025.

RESULTS AND DISCUSSION

The collected data is presented in two categories: univariate and bivariate. The results of the univariate analysis describe the characteristics of the respondents

and the percentages of each variable. The results of the univariate analysis indicate that the majority of elderly people are aged 60–69 years with primary education. The majority of the elderly involved are also female.

Table 1. Distribution of Elderly Characteristics (n= 106)

Characteristics of the Elderly	n	%
Age		
60 – 69 Years Old	72	67.9
≥70 Years	34	32.1
Education Level		
No formal education	6	5,7%
Primary (Elementary, Junior High)	91	85,8%
High (Senior High, University)	9	8,5%
Gender		
Male	60	89.6
Female	7	10.4

In older adults, this condition is caused not only by lifestyle but also by natural biological changes. The primary cause of hypertension in the elderly is the aging process of the cardiovascular system. With age, large blood vessels (especially the aorta) lose their elasticity (13).

Table 2. Distribution of Frequency Based on Blood Pressure in the Elderly with Hypertension (n=106)

Variable	n	%
Blood Pressure		
Hypertension Grade I (140-159/90-99 mmHg)	71	66.9
Hypertension Grade II (≥160/100mmHg)	35	33.1

The primary reason why older adults are highly susceptible to hypertension is the natural aging process, which triggers stiffening of the walls of large blood vessels (arteries), a condition known as arteriosclerosis. With age, the elastic fibers in blood vessels diminish and are replaced by stiff collagen tissue, preventing them from expanding flexibly as the heart pumps blood (9). This condition is exacerbated by decreased kidney function in removing excess salt (sodium), reduced sensitivity of blood pressure sensors (baroreceptors), and thickening of the heart wall. The combination of these structural and hormonal changes leads to increased resistance to blood flow, which often clinically manifests as isolated systolic hypertension in the elderly.

Table 3. Frequency Distribution of Self-Efficacy in Elderly Hypertensive Patients

Variable	n	%
Self-efficacy		
High self-efficacy	56	52.8
Low self-efficacy	50	47.2

The research results found that the majority of elderly people had high self-efficacy. Self-efficacy relates to a person's confidence in exercising personal control over motivation, cognition, and affect in their social environment. Self-efficacy refers to a person's belief in achieving goals, solving problems, and facing challenges. According to Bandura, self-efficacy is an individual's assessment of their ability to plan and execute actions that lead to the achievement of specific goals. Self-efficacy plays an important role in controlling self-care behavior in hypertensive patients. Self-efficacy is formed through cognitive, motivational, affective, and selection processes, and is influenced by individual experience, observation of others, social persuasion, and physical and emotional conditions. (8)

Table 4. Distribution of Frequency of Physical Activity in the Elderly with Hypertension

Variable	n	%
Physical activity		
High physical activity	51	48.1
Low physical activity	55	51.9

Physical activity in the majority of elderly people with hypertension is low. Low physical activity in the elderly is generally caused by a combination of interrelated biological, psychological, and environmental factors. (13). Physiologically, the aging process causes decreased muscle mass, joint stiffness due to osteoarthritis, and decreased cardiorespiratory capacity,

which can lead to fatigue or pain during movement. Psychologically, barriers such as fear of falling and the perception that they are too weak to exercise often reduce motivation to remain active.

Table 5. Analysis of the Relationship Between Self-Efficacy and Physical Activity in the Elderly with Hypertension (n=106)

Self-efficacy	Physical Activity						P *Value*	OR (95 % CI)
	High		Low		Total			
	n	%	n	%	N	%		
High	33	58.9	23	41.1	56	100	0,030	2.551 (1.163 - 5.595)
Low	18	36	32	64	50	100		
Total	51	48	55	52	106	100		

Research shows a relationship between self-efficacy and physical activity in elderly individuals with hypertension. Three categories of physical activity are distinguished: low, moderate, and heavy. (14). Low activity is physical activity or activities that do not alter breathing or require endurance. The energy expended during these activities is (<3.5 Kcal/minute). Examples include making the bed, cooking, cleaning dishes, making crafts, washing dishes, hanging out clothes, playing cards, drawing, painting, and taking a leisurely walk. Moderate activity is exercise that requires greater intensity or continuous movement that requires flexibility and rhythmic muscle strength. The energy expended during these activities is between 3.5 and 7 Kcal/minute. Examples include playing table tennis, cycling slowly, moving light furniture, climbing stairs, and gardening. Heavy activity is related to sports and requires a lot of energy and strong muscles that can produce sweat. The energy expended during activities in this category is >7 Kcal/minute. Examples include swimming, gymnastics, tai chi, yoga, playing soccer, and badminton.

Regular, moderate physical activity, performed three days per week for 30 minutes per day, increases longevity, reduces mortality, and reduces the risk of cardiovascular disease, heart attacks, hypertension, arthritis, osteoporosis, depression, and various cancers. (5). A regular physical activity program should be started gradually and maintained for 30–45 minutes per week. This level of activity can help control hypertension.

Physical activity in the elderly can be predicted using the Health Belief Model (HBM) (15). One of the domains of the HBM is self-efficacy. (16). Self-efficacy plays a crucial role in managing and controlling health problems and is partly dependent on knowledge about the disease or illness. Self-efficacy is related to self-care behaviors in people with hypertension. (17).

Self-efficacy can be cultivated and learned through four main ways. (18) Mastery Experience, Social Modeling, Social Persuasion, and Physical and Emotional Conditions. Past experiences in mastering something. In general, past successes will increase an individual's self-efficacy, while experiences of failure can decrease it. Seeing others with comparable abilities succeed in performing a certain task can increase an individual's self-efficacy in carrying out the same task. Through advice, counsel, and guidance, individuals can increase their confidence in their abilities, which can help them achieve desired goals. Strong emotions can reduce performance. When someone experiences intense fear, acute anxiety, or high levels of stress, they are likely to have low efficacy expectations. Low.

Higher self-efficacy can help people maintain energy during exercise or physical activity, and they can report more positive effects during or after physical activity, and feel more relaxed. (10). Research shows that of the 41 respondents with high self-efficacy, 100% engaged in low- to moderate-intensity activities. (19)

CONCLUSION

In this study, elderly people aged 60-69 had high self-efficacy but low physical activity. Low physical activity in the elderly can be influenced by several factors, both physical and psychological. Research shows a

relationship between self-efficacy and physical activity in the elderly and hypertension. Older adults are more confident that physical activity is safe and beneficial for controlling their blood pressure, even if they have chronic illnesses.

ACKNOWLEDGMENT

The researcher would like to thank Poltekkes Kemenkes Jakarta III for providing support in implementing the research and the various parties who have provided support for this research.

REFERENCES

1. United Nations. Leaving No One Behind In An Ageing World: World Social Report 2023. 2023.
2. Kemenkes RI. Hasil Riset Kesehatan Dasar Tahun 2018. Vol. 53, Kementerian Kesehatan RI. 2018.
3. BPKP Kemenkes RI. Survei Kesehatan Indonesia 2023 Dalam Angka. SKI. 2023;01:1–68.
4. Kemenkes RI. Hipertensi Si Pembunuh Senyap. Kementrian Kesehat RI [Internet]. 2019;1–5. Available from: https://pusdatin.kemkes.go.id/resources/download/pusdatin/infodatin/infodatin-hipertensi-si-pembunuh-senyap.pdf
5. Kazeminia M, Daneshkhah A, Jalali R, Vaisi-Raygani A, Salari N, Mohammadi M. The Effect of Exercise on the Older Adult's Blood Pressure Suffering Hypertension: Systematic Review and Meta-Analysis on Clinical Trial Studies. Int J Hypertens. 2020;2020.
6. Anggunadi A, Sutarina N. Manfaat Accelerometer Dalam Pengukuran Aktivitas Fisik. Jorpres (Jurnal Olahraga Prestasi). 2017;13(1):10–33.
7. Yang MH, Kang SY, Lee JA, Kim YS, Sung EJ, Lee KY, et al. The effect of lifestyle changes on blood pressure control among hypertensive patients. Korean J Fam Med. 2017;38(4):173–80.
8. Sas-Nowosielski K, Hadzik A, Górna J, Grabara M. Applying the Health Belief Model in Explaining the Stages of Exercise Change in Older Adults. Polish J Sport Tour. 2016;23(4):221–5.
9. Mauk KL. Gerontological Nursing Competencies For Care: Fifth Edition. 2023;1–23.
10. Chen X, Yang S, Zhao H, Li R, Luo W, Zhang X. Self-Efficacy, Exercise Anticipation and Physical Activity in the Elderly: Using Bayesian Networks to Elucidate Complex Relationships. Patient Prefer Adherence. 2022;16(July):1819–29.
11. Irman O, Paulus Y, Rangga P. Efikasi Diri dan Self-Care pada Pasien Sindrom Koroner Akut. 2025;
12. Pedersen MM, Zebis MK, Sjøgaard G, Bredahl T, Andersen LL. Influence of Self-Efficacy on Compliance with Workplace Exercise. 2013;365–70.
13. Dida GY, Nayoan CR, Sir AB. The Risk Factors of Hypertension Among the Elderly in the Working Area of Sikumana Primary Health Care Center. J Public Heal Trop Coast Reg. 2023;6(1):21–9.
14. Kemenkes RI. Hipertensi/Tekanan darah tinggi. Direktorat P2PTM [Internet]. 2019;1–10. Available from: http://p2ptm.kemkes.go.id/uploads/VHcrbkVobjRzUDN3UCs4eUJ0dVBndz09/2019/01/Leaflet_PDF_15_x_15_cm_Hipertensi_Tekanan_Darah_Tinggi.pdf
15. Hatefnia E, Kimiafar M, Moghimbeigi A, Safari-Moradabadi A. Factors Predicting Physical Behaviors and Activity in the Elderly related to hypertension in overweight male

employees : Application of Health Belief Model. Heal Educ Heal Promot. 2023;11(2).

16. Rajkumar E, Romate J. Application of a Health Belief Model to Hypertension within Rural India. Indian J Public Heal Res Dev. 2020;11(1):782.
17. Yanti DE, Perdana AA, Oktarina N, Kesehatan F, Universitas M, Mena PH, et al. Health Belief Model : Self-care Penderita Hipertensi di Wilayah Kerja UPT Puskesmas Kalirejo Kabupaten Pesawaran. 2020;9(2):192–205.
18. Romadhon WA, Aridamayanti BG, Syanif AH, Sari GM. Faktor-Faktor yang memengaruhi self-care behavior pada klien dengan hipertensi di komunitas. J Penelit Kesehat "SUARA FORIKES" (Journal Heal Res "Forikes Voice"). 2020;11(April 2020):37.
19. Mubarrok AS, Anik Puji Wiyanti. Hubungan Self-Efficacy Dengan Aktivitas Fisik Penderita Diabetes Melitus Di Rs Airlangga Jombang. J Ilm Keperawatan (Scientific J Nursing). 2023;9(1):182–8.