ORIGINAL ARTICLE

Family Support, Self-Efficacy, and Hypertension Self-Care: A Path Analysis Study

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Abstract

Background: Hypertension is a global disease burden that continues to increase. Self-care is fundamental to preventing hypertension complications and improving quality of life, and it is influenced by some factors, including family support and self-efficacy.

Objective: The research aimed to investigate how self-efficacy acts as an intermediary in the relationship between family support and self-care practices among individuals managing hypertension.

Methods: This cross-sectional study included 122 patients with essential (primary) hypertension. They were recruited from the community health center at Boyolali Regency, Central Java. The data were collected from July to September 2021. The independent variables were family support and self-efficacy. The dependent variable was hypertension self-care behavior.

Results: The mean age of participants was 51.38±13.53 years. The sample consisted of 35.2% male and 64.8% female. On average, patients had been living with hypertension for 4.53±2.02 years. There is a statistically significant correlation between family support (r=0.91; p<0.001) and self-efficacy (r=0.92; p<0.001) in hypertension self-care. Hypertension prevention and self-care is directly affected by family support (B=0.40; SE=0.07; p<0.001; 95%CI=0.24-0.55) and self-efficacy (B=0.56; SE=0.07; p<0.001; 95%CI=0.40-0.70). Hypertension self-care is also indirectly affected by family support through self-efficacy (B=0.98; SE=0.14; p<0.001; 95%CI=0.69-0.12). It indicated that self-efficacy mediates the relationship between family support and self-care.

Conclusion: Hypertension self-care is directly affected by family support and self-efficacy. Also, it is indirectly affected by family support through self-efficacy.

Keywords: *Family support, hypertension, mediating role, self-care, self-efficacy.*

INTRODUCTION

Hypertension has become the most pressing global health concern in recent decades. It affects individuals across different age groups and socioeconomic backgrounds, which makes it a leading contributor to the global burden of non-communicable diseases [1]. About 26% of the world's population has been diagnosed with hypertension. The condition is widespread in low and middle-income nations [2], where healthcare accessibility, socioeconomic factors, and lifestyle choices lead to higher risks of disease development. Within the Southeast Asia region, hypertension mirrors the global trend. Hypertension has continued to rise in this region due to lifestyle changes, urbanization, and shifts in dietary habits [3].

Indonesia, as one of the largest countries in Southeast Asia, faces a set of challenges concerning hypertension. The prevalence of hypertension in Indonesia has been steadily increasing, driven by factors such as urbanization, sedentary lifestyles, and dietary changes. According to a national survey, hypertension in Indonesia has been continuously rising, and one of the provinces with a considerable rise is Central Java with the cities including Boyolali [4]. Therefore, effective management of hypertension is a crucial health priority as a risk factor for non-communicable diseases, including cardiovascular diseases, stroke, and renal issues, which combined account for a significant portion of worldwide mortality [5].

Hypertension management is a self-care concept that includes behaviors and lifestyle modifications that patients undertake to monitor and control their blood pressure. Self-care practices include medication adherence, dietary adjustments, regular physical activity, stress management, and routine monitoring of blood pressure levels [6]. These self-directed efforts not only contribute to optimal blood pressure control but also hold the potential to prevent complications, enhance quality of life, and reduce healthcare costs [7].

However, managing hypertension through self-care is complex and influenced by various interconnected factors, including psychosocial support systems [8]. Among these, family support and self-efficacy become important components for engaging in self-care behavior in chronic diseases [9]. The significance of family support in hypertension self-care has been well-documented, with studies indicating that family members assist in treatment adherence by providing emotional encouragement, ensuring dietary modifications, reminding patients to take medications, and facilitating access to healthcare services. Previous

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Received: October 23, 2024; Revised: February 06, 2025; Accepted: March 04, 2025
DOI: https://doi.org/10.37184/lnjpc.2707-3521.7.50

  ISSN: 2708-9134 (Online) Liaquat National Journal of Primary Care 2025; 7(3): 200-206

research has consistently highlighted the positive impact of family support on hypertension management. It affects medication adherence, encourages healthy lifestyle modifications, and contributes to well-being [10,11]. Moreover, family support has been linked to improved treatment compliance, as individuals who receive encouragement and assistance from their family members are more likely to adhere to medical recommendations, engage in regular physical activity, and maintain healthy lifestyle changes.

Similarly, self-efficacy is a fundamental psychological factor influencing self-care behaviors in hypertensive patients. Studies showed that people with good self-efficacy tend to follow medication regimens, keep balanced nutrition, perform regular physical activities, and maintain stress reduction techniques [12]. Furthermore, self-efficacy not only facilitates the initiation of health-related behaviors but also strengthens long-term adherence [13]. Therefore, it requires targeted interventions that enhance self-efficacy and social support systems to improve hypertension management outcomes. Interventions aimed at improving hypertension management should focus on strengthening both family involvement and self-efficacy through educational programs, counseling, and community-based support initiatives. By addressing these psychosocial determinants, healthcare providers can help patients develop sustainable self-care routines. It is expected that they can improve hypertension outcomes and reduce the risk of complications.

Existing research suggests the fundamental role of family support and self-efficacy in promoting self-care behaviors among individuals with hypertension. Family support has been shown to encourage adherence to treatment plans, lifestyle modifications, and health management, while self-efficacy enhances individuals' confidence in their ability to perform self-care activities effectively. However, despite these recognized benefits, there is limited understanding of how these factors interact to influence self-care behaviors for hypertension. In particular, the mechanisms through which family support affect self-care, either directly or indirectly, remain underexplored [14].

This study aims to address this research gap. Understanding these pathways could provide a deep understanding of how self-efficacy facilitates the impact of family support on self-care behaviors. By clarifying these relationships, the study contributes to a more comprehensive framework for improving self-care practices among hypertensive individuals. The findings may also inform the development of targeted interventions that strengthen both family support and self-efficacy to enhance hypertension management outcomes.

MATERIALS AND METHODS

The current study used a cross-sectional design and was carried out at Boyolali Regency, Central Java, Indonesia. Participants were selected from a community health center in Ngemplak District, Boyolali. Data were collected for three months in 2021, from July to September. Ethical approval was obtained from the Faculty of Medicine, Universitas Sebelas Maret, Indonesia (Approval No.108/UN27/.06.6.1/KEP/EC/2021).

A total of 122 patients with essential (primary) hypertension participants were selected. The participants were adults registered in the community health center in Ngemplak District, Boyolali Regency, Central Java, Indonesia. The eligibility criteria included: Adults aged ≥18 years, hypertensive individuals on treatment for at least six months before the study, no known secondary hypertension, no cognitive or mental disorders that could interfere with participation, and willingness to participate and provide informed consent.

A 95% confidence level (Z = 1.96) was applied to enhance statistical accuracy, with a 5% margin of error maintained to control variability in the results. An estimated standard deviation (SD) of 0.27 [10], derived from prior research or assumptions, was incorporated to refine the calculation. These parameters were carefully selected to optimize the sample size, which ensured that the study captured meaningful relationships while minimizing potential biases. By applying a structured statistical approach, the sample size calculation enhances the significance and generalizability of the study's outcomes (Eq. 1).

$$n = \left(\frac{Z \times \mathrm{SD}}{E}\right)^2 \quad \text{.....(1)}$$

Initial contact with participants was conducted using medical record data at the community health center. Participants were patients who had been diagnosed with hypertension by a medical doctor. From the list of patients who met the requirements, the researcher used a simple random sampling technique to select participants to be contacted. This technique was taken to ensure every patient on the list who met the criteria had an equal chance of being selected as a research participant. The researcher collected data using a self-report questionnaire for the participants to complete.

This study examined three main variables to understand their roles in managing hypertension. The independent variables were family support and self-efficacy. Family support means encouragement from family members to manage hypertension. Self-efficacy is the confidence individuals have in their ability to take care of themselves and follow health recommendations. The dependent variable was hypertension self-care behavior, which includes activities such as eating a healthy diet, taking medication, exercising, and checking blood pressure.

This study utilized a structured questionnaire to collect demographic information and assess key variables related to hypertension prevention and self-care. The

demographic section included age, sex, education level, income, and hypertension duration, providing essential background data on the participants [15].

Family support was assessed using the Perceived Social Support-Family (PSS-Fa) scale, which measures four dimensions of support: emotional, informational, instrumental, and evaluative. Responses were recorded on a Likert scale (1 = never, 4 = always), where higher scores signify a greater perception of family support [16]. Additionally, self-care behaviors were assessed using the scale of Hypertension Self-care Management Behavior Questionnaire (HSMBQ), which comprises five subscales. Subscale scores were added to obtain an overall self-care score from 40 to 160. A better score indicates better self-care management. The scale allows for an objective assessment of their hypertension management behaviors [17].

This study assessed the impact of family support on self-efficacy and self-care among individuals with hypertension through path analysis. Bivariate analysis, utilizing Pearson's correlation, was conducted to evaluate the relationships between the variables, with the correlation coefficient used to determine the strength of these associations. To further analyze the mediating role of the variables, multivariate analysis was performed using Structural Equation Modeling (SEM). The mediation effect of self-efficacy was assessed for statistical significance, with a threshold of $p < 0.05$. The Goodness-of-Fit indicators for the path analysis included the Comparative Fit Index (CFI). Analysis was performed using SPSS version 26 and R.

RESULTS

Table **1** presents the characteristics of the sample, including gender distribution, educational attainment, marital status, age, duration of hypertension, self-efficacy, family support, and self-care. The sample consisted of 35.2% male and 64.8% female participants. In terms of education, the majority of participants had completed senior high school or higher, with a smaller portion having completed elementary or junior high education. Regarding marital status, 74.6% of patients were married. The mean age of participants was 51.38±13.53 years, with an age range of 26 to 80 years. On average, patients had been living with hypertension for 4.53±2.02 years.

The mean self-efficacy score was 21.38±5.41, with scores ranging from 10 to 35. Family support scores averaged 19.70±5.00, with a range of 10 to 32, reflecting variation in the level of support patients received. The mean score for self-care was 99.75±9.62, with scores ranging from 80 to 129. Further details on these characteristics are presented in Table **1**.

The findings from Table **2** show the outcomes of the bivariate analysis. The results demonstrate a strong and statistically significant correlation between self-efficacy and self-care ($r = 0.92$, $p<0.001$). This suggests that individuals with higher self-efficacy are more inclined to engage in consistent and effective self-care behaviors. These findings emphasize the pivotal role of self-confidence in hypertension management, as higher self-efficacy appears to enhance individuals' capability of doing self-care routines.

Table 1: Demographic characteristics of the study.

Variables	Groups	n	%
Sex	Male	43	35.2
	Female	79	64.8
Education	Elementary	2	1.6
	Junior	11	9.0
	Senior	56	45.9
	Diploma	16	13.1
	Bachelor	37	30.3
Marital Status	Single/Divorce	31	25.4
	Married	91	74.6
Hypertension Control Status	Poor (≥140/90 mmHg)	50	41.0
	Good (<140/90 mmHg)	72	59.0
Co-Morbid Status	DMT2	57	46,72
	Dyslipidemia	26	21,31
	Cardiovascular disease	8	6,56
	No Comorbid	31	25,41
Variables	**Mean**	**SD**	**Min-Max**
Age	51.38	13.53	26-80
Duration of Hypertension (Years)	4.53	2.02	1-11
Number of Anti-Hypertensive Medications	1.8	0.9	1-4
Duration of Medication	4.5	2.2	1-11
Self-Efficacy	21.38	5.41	10-35
Family Support	19.70	5.00	10-32
Self-Care	99.75	9.62	80-129

Tables 2: Bivariate correlation of self-care with self-efficacy and family support.

Variables	Self-care		
	n	R	p-value
Self-Efficacy	122	0.92	<0.001
Family Support	122	0.91	<0.001

Additionally, the analysis indicates a significant positive correlation between family support and self-care ($r = 0.91$, $p<0.001$). Therefore, a supportive environment can improve health-related behaviors. Individuals who receive strong family encouragement are more likely to maintain effective self-care practices, reinforcing the importance of familial involvement in managing hypertension. These findings suggest the need for interventions that not only build self-efficacy but also strengthen family support systems to improve adherence to self-care behaviors among hypertensive individuals.

These findings suggest the significant influence of psychosocial factors in hypertension management. Both self-efficacy and family support are fundamental for

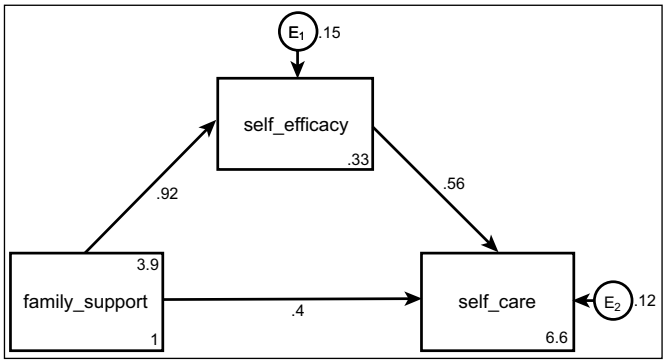

Fig. (1): Path Analysis of the relationship between family support, self-efficacy, and self-care along with path coefficients.

fostering better self-care behaviors. Individuals who feel supported by their families and have strong confidence in their self-care abilities tend to adhere to medical recommendations and lifestyle changes.

Fig. **(1)** illustrates the path analysis and suggests a significant direct effect, where family support positively influences self-care behaviors, as indicated by a path coefficient of 0.40. This finding proves the crucial role of family support in encouraging hypertensive people to perform self-care practices. Also, the model reveals an indirect effect through self-efficacy. It shows that family support improves self-efficacy, and the improvement positively affects self-care behaviors.

These findings confirm that both direct and indirect pathways contribute to hypertension prevention and self-care. It represents the importance of family support and self-efficacy. Strengthening family support systems can directly promote self-care and foster self-efficacy. This positive relationship leads to sustainable and effective self-care behaviors among individuals with hypertension. Hypertension can be well managed through family support, self-efficacy, and self-care.

The role of self-efficacy as a mediator is supported by the strong positive path coefficient of 0.92 from family support to self-efficacy and a subsequent positive coefficient of 0.33 from self-efficacy to self-care. These coefficients demonstrate that higher levels of family support significantly enhance an individual's self-efficacy, which, in turn, improves their self-care behaviors. This partial mediation indicates that family support independently contributes to self-care, and its effect is strengthened when self-efficacy is considered. These findings reveal the interconnected nature of family support and self-efficacy in influencing hypertension prevention and self-care and suggest that interventions targeting both factors may be more effective in improving self-care behaviors.

The path analysis in Table **3** evaluates the direct effect of family support on both self-care and self-efficacy. The findings indicate that family support significantly contributes to self-care behaviors, with a path coefficient of B = 0.40. This suggests that for every one-unit increase in family support, self-care behaviors improve by 0.40 units. Statistically, the effect is significant ($p < 0.001$), while the 95% Confidence Interval (CI = 0.24 to 0.55) supports the reliability of the relationship.

Table **3** also shows a strong direct effect of family support on self-efficacy, with a path coefficient of B = 0.92, which indicates that a one-unit increase in family support improves self-efficacy by 0.92 units. These findings note that family support directly affects self-care and also self-efficacy, which in turn plays a mediating role in improving self-care behaviors. The strong statistical evidence suggests that incorporating family-based support interventions can effectively optimize hypertension management and promote good self-care practices among affected individuals.

Furthermore, the results show the significant effect of self-efficacy on self-care behaviors, with a path coefficient of B=0.56. This indicates that a one-unit increase in self-efficacy leads to a 0.56-unit improvement in self-care practices. The statistical significance ($p<0.001$) confirms the strength of this relationship, while the 95% Confidence Interval supports its reliability.

Moreover, the analysis reveals a strong indirect effect of family support on self-care, which is associated with the mediating role of self-efficacy. The path coefficient (B=0.98) indicates that each unit increase in family support results in a 0.98-unit improvement in self-care through its influence on self-efficacy. This indirect effect is statistically significant, which demonstrates the reliability of this mediation pathway. These findings show that family support directly contributes to the improvement of self-care behaviors and indirectly increases self-efficacy in hypertension management. Strengthening self-efficacy can be a crucial strategy for improving self-care practices for individuals with hypertension.

Table 3: A path analysis of the relationship between family support, self-efficacy, and self-care.

Variables	B	SE	p-value	95% CI	
				Lower Limit	Upper Limit
Direct Effects					
Self-Care ← Self-Efficacy	0.56	0.07	<0.001	0.40	0.70
Self-Care ← Family Support	0.40	0.07	<0.001	0.24	0.55
Self-Efficacy ← Family Support	0.92	0.10	<0.001	0.89	0.94
Indirect Effect					
Self-Care ← Family Support	0.98	0.14	<0.001	0.69	1.26
Goodness of Fit		ref			
CFI	1.00	>0.90	-	-	-
TLI	1.00	>0.90	-	-	-
SRMR	<0.001	<0.02	-	-	-
RMSEA	<0.001	<0.05	-	-	-

CFI: Comparative fit index TLI: Tucker-Lewis Index, SRMR: Standardized root mean square Residual, RMSEA: Root mean square error of approximation.

The p-value ($p<0.001$) confirms the statistical significance of the indirect effect. It proves that the mediation through self-efficacy is meaningful. The 95% confidence interval (95%CI: 0.69 to 1.12) further estimates the magnitude of this indirect effect. These findings suggest that a portion of the impact of family support on self-care is mediated by its positive influence on self-efficacy. It shows the interconnected roles of these variables in promoting better self-care behaviors.

In terms of the goodness of fit, the results from the path analysis indicate an excellent model fit. It confirms that the statistical model effectively represents the relationships among self-care, self-efficacy, and family support. The Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) both achieved a perfect score of 1.00. It signifies an ideal agreement between the model and the data assessed. It validates the model's robustness and ability to accurately reflect real-world interactions among the study variables.

Additionally, error metrics support the model's reliability. It indicates a minimal discrepancy between the model's predictions and the actual data. Therefore, the model provides a strong and precise representation of the relationships under investigation. These high goodness-of-fit indices show the validity of the path analysis findings.

DISCUSSION

This study examined the relationships between hypertension self-care behaviors, self-efficacy, and family support, revealing significant direct and indirect effects, consistent with Bandura's Social Cognitive Theory (SCT) [18]. SCT highlights self-efficacy as a key factor in motivating people to adopt health-promoting behaviors through the interplay of cognitive, social, and behavioral influences. The findings indicate that self-efficacy, bolstered by family support, improves patients' ability to engage in effective self-care practices for managing hypertension [19].

Family support plays a vital role in enhancing self-care behaviors and managing hypertension. It provides emotional encouragement, practical assistance, and empathy, which motivate patients to adhere to self-care routines and manage their condition consistently [20].

Research identifies several dimensions of family support that significantly impact self-care behaviors [21]. These forms of support provide the emotional reassurance required to maintain positive habits and practical assistance, such as reminders for medication or guidance on dietary changes. This role of family support shows its great impact on various aspects of hypertension self-management, from medication adherence to lifestyle modifications. Family members who possess adequate knowledge and demonstrate supportive behaviors contribute positively to patients' self-care management [22].

Prior studies highlighted the importance of three domains of family support including instrumental, informational, and emotional in promoting self-care [23]. Instrumental support, such as helping with medication or diet adherence, enables effective self-care practices [24].

In the context of hypertension, people with more self-efficacy tend to engage more in recommended self-care activities, such as medication concerns, dietary modifications, and regular exercise [25]. This is in line with a prior study that stated self-efficacy plays a fundamental role in hypertension management. The study suggested that people with elevated self-efficacy adhere more to self-care regimens [12]. People with strong self-efficacy are more likely to adhere to self-care practices such as medication adherence, healthy diet, exercise, and blood pressure monitoring [26]. This highlights self-efficacy as a fundamental driver of effective hypertension self-management [13].

Self-efficacy also bridges the association between family support and self-care behaviors. Research indicates that family support directly promotes self-care and indirectly strengthens it by enhancing self-efficacy [27]. For instance, studies have shown that self-efficacy completely bridges the link between family support and self-directed care in hypertensive patients, particularly in activities like medication adherence and physical exercise [28]. Additionally, factors such as depressive symptoms may complicate this relationship, influencing the impact of family support on self-efficacy and self-care behaviors [9].

Similarly, another study found that self-efficacy mediates the relationship between social support and self-care behaviors related to diet quality and weight management Self-efficacy mediates the relationship between family support and specific self-care behaviors, such as physical exercise, diet quality, and weight management [29]. These findings underscore the central role of self-efficacy in translating family support into effective self-care behaviors. Interventions should therefore focus on strengthening both family support systems and people's self-efficacy to enhance self-care outcomes.

This research highlights the importance of family support and self-efficacy in improving the self-care behavior of hypertension sufferers. Practical implications that can be applied in clinics or communities include: the first is a family-centered education program. Healthcare workers can organize workshops to educate families about hypertension management, including medication adherence, dietary changes, and exercise promotion. The second is that community support groups in community settings can share self-care strategies while including families to increase social networks and motivation. The third is a tailored intervention so that an individualized treatment plan that integrates family support and addresses unique social or psychological

needs can improve adherence. Lastly, providing training that emphasizes family involvement, assessing support during evaluations, and collaborating with community organizations can expand the reach and impact of this strategy. Implementing these interventions in clinical and community settings can improve hypertension management, improve self-care practices, and improve patient outcomes. Future research should assess its effectiveness in diverse populations to refine and optimize this approach.

LIMITATIONS OF THE STUDY

While significant associations were observed, the temporal sequence of these variables remains unclear. For instance, it is uncertain whether enhanced self-efficacy leads to better self-care or whether individuals engaging in better self-care develop stronger self-efficacy over time. Future studies employing longitudinal or experimental designs are recommended to better understand the causality and directionality of these relationships. Besides, the use of self-reported data for variables like self-efficacy, family support, and self-care behaviors can generate unobjective results. Participants might have provided responses they thought were acceptable rather than accurate reflections of their behaviors and perceptions. Finally, the study involved a minimum sample of individuals with hypertension in Boyolali. The results might not be generalizable to other communities with distinct socio-demographic characteristics, cultural norms, or healthcare systems.

CONCLUSION

The analysis demonstrates significant direct and indirect relationships among these variables. Family support directly influences self-care by encouraging healthy practices and indirectly enhances self-care by boosting individuals' confidence in managing their condition. This dual pathway shows the interconnected nature of psychosocial and cognitive factors in disease management. Besides, self-efficacy and family support independently contribute to self-care practices such as medication adherence, dietary adjustments, and regular physical activity. Also, self-efficacy mediates the relationship between family support and self-care. This study highlights the important roles of family support and self-efficacy in influencing hypertension self-management behaviors. However, the cross-sectional design limits the ability to establish causality, and the findings should be interpreted with caution. To build upon these results, future research should consider longitudinal or intervention-based approaches to verify the causal pathways between these variables and further explore their implications for hypertension management strategies.

LIST OF ABBREVIATIONS

GSES: General Self-Efficacy Scale
PSS-Fa: The Perceived Social Support-Family Scale
HSMBQ: The Hypertension Self-Care Management Behavior Questionnaire

ETHICS APPROVAL

Ethical approval was obtained from the Faculty of Medicine, Universitas Sebelas Maret, Indonesia (Approval No. 108/UN27/.06.6.1/KEP/EC/2021). All procedures performed in studies involving human participants were following the ethical standards of the institutional and/ or national research committee and the Helsinki Declaration.

CONSENT FOR PUBLICATION

All participants provided informed consent before they were involved in the study.

AVAILABILITY OF DATA

The data of this study are available by request.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ACKNOWLEDGEMENTS

Declared none.

AUTHORS' CONTRIBUTION

Akhmad Azmiardi: Data collection, statistical analysis, literature search, interpreted the results, and drafted the manuscript; Aris Widyanto: drafted the manuscript; Joko Tri Atmojo: drafted the manuscript.

REFERENCES

1. Mills KT, Stefanescu A, He J. The global epidemiology of hypertension. Nat Rev Nephrol 2020; 16(4): 223. DOI: https://doi.org/10.1038/S41581-019-0244-2
2. WHO. Hypertension WHO [Internet]. Hypertension 2021. p. 12-4. Available at: https://www.who.int/health-topics/hypertension
3. Mohammed Nawi A, Mohammad Z, Jetly K, Abd Razak MA, Ramli NS, Wan Ibadullah WAH, *et al.* The prevalence and risk factors of hypertension among the urban population in Southeast Asian countries: A systematic review and meta-analysis. Int J Hypertens 2021; 2021. DOI: https://doi.org/10.1155/2021/6657003
4. Astutik E, Puspikawati SI, Dewi DMSK, Mandagi AM, Sebayang SK. Prevalence and risk factors of high blood pressure among adults in Banyuwangi Coastal communities, Indonesia. Ethiop J Health Sci 2020; 30(6). DOI: https://doi.org/10.4314/ejhs.v30i6.12
5. Oparil S, Acelajado MC, Bakris GL, Berlowitz DR, Cífková R, Dominiczak AF, *et al.* Hypertension. Nat Rev Dis Prim 2018; 4: 18014. DOI: https://doi.org/10.1038/NRDP.2018.14
6. Konlan KD, Shin J. Determinants of self-care and home-based management of hypertension: An integrative review. Glob Heart 2023; 18(1). DOI: https://doi.org/10.5334/GH.1190
7. Melaku T, Bayisa B, Fekeremaryam H, Feyissa A, Gutasa A. Self-care practice among adult hypertensive patients at ambulatory clinic of tertiary teaching Hospital in Ethiopia: A cross-sectional study. J Pharm Policy Pract 2022; 15(1). DOI: https://doi.org/10.1186/S40545-022-00421-3

8. Azmiardi A, widiyanto A, Atmojo JT, Anasulfalah H, Mubarok AS, Iswahyuni S. Hypertension self-care behavior and its associated factors among patients with hypertension. Indones J Med 2023; 8(3): 249-57.
DOI: https://doi.org/10.26911/THEIJMED.2023.08.03.02
9. Hu HH, Li G, Arao T. The association of family social support, depression, anxiety and self-efficacy with specific hypertension self-care behaviours in Chinese local community. J Hum Hypertens 2014; 29(3): 198-203.
10. Chacko S, Jeemon P. Role of family support and self-care practices in blood pressure control in individuals with hypertension: Results from a cross-sectional study in Kollam District, Kerala. Wellcome Open Res 2020; 5.
DOI: https://doi.org/10.12688/wellcomeopenres.16146.1
11. Azmiardi A, Widiyanto A, Atmojo JT, Anasulfalah H, Syauqi A, Sekolah M, *et al.* Hubungan Pengetahuan dan Kepatuhan Pengobatan pada Pasien dengan Hipertensi. J Ilm Permas J Ilm STIKES Kendal 2023; 13(2): 463-8.
DOI: https://doi.org/10.32583/PSKM.V13I2.901
12. Tan FCJH, Oka P, Dambha-Miller H, Tan NC. The association between self-efficacy and self-care in essential hypertension: A systematic review. BMC Fam Pract 2021; 22(1).
DOI: https://doi.org/10.1186/S12875-021-01391-2
13. Darvishpour A, Mansour-Ghanaei R, Mansouri F. The relationship between health literacy, self-efficacy, and self-care behaviors in older adults with hypertension in the North of Iran. Heal Lit Res Pract 2022; 6(4): e262-9.
DOI: https://doi.org/10.3928/24748307-20221013-01
14. Lainsamputty F. Kelelahan dan gaya hidup pada pasien hipertensi. Nutr J 2020; 4(1): 20.
DOI: https://doi.org/10.37771/nj.Vol4.Iss1.427
15. Kim JE, Jiang YH, Dee V. Psychometric properties of general self-efficacy (GSE) scale Korean version for older korean immigrants with diabetes: A cross-sectional study in the United States. Nurs Reports 2023; 13(2): 844-54.
DOI: https://doi.org/10.3390/nursrep13020074
16. Phetrnui S, Suwanno J, Chiaranai C, Bunsuk C, Koson N, Kumanjan W, *et al.* Cross-cultural adaptation and psychometric evaluation of the Thai version of the enhancing recovery in coronary heart disease social support inventory in individuals with chronic illnesses. Int J Nurs Sci 2025; 12(1): 65-73.
DOI: https://doi.org/10.1016/j.ijnss.2024.12.013
17. Mahboubi M, Mirzaei-Alavijeh M, Hosseini SN, Motlagh ME, Saadatfar A, Fattahi M, *et al.* Psychometric analysis of hypertension self-management behaviors questionnaire; An application of intervention mapping approach in questionnaire development. J Educ Community Heal 2021; 8(4): 237-43.
DOI: https://doi.org/10.52547/jech.8.4.237
18. Martin JJ, Guerrero MD. Social cognitive theory. In: Martin JJ, Guerrero MD, Eds. Routledge Handbook of Adapted Physical Education. UK: Routledge; 2020. pp. 280-95.
DOI: https://doi.org/10.4324/9780429052675-22
19. Islam KF, Awal A, Mazumder H, Munni UR, Majumder K, Afroz K, *et al.* Social cognitive theory-based health promotion in primary care practice: A scoping review. Heliyon 2023; 9(4): e14889.
DOI: https://doi.org/10.1016/j.heliyon.2023.e14889
20. Pahria T, Nugroho C, Yani DI. Factors Influencing self-care behaviors in hypertension patients with complications. Vasc Health Risk Manag 2022; 18: 463.
DOI: https://doi.org/10.2147/VHRM.S366811
21. Mariyani M, Azriful A, Bujawati E. Family support through self care behavior for hypertension patients. Divers Dis Prev Res Integr 2021; 1-8.
DOI: https://doi.org/10.24252/diversity.v2i1.23180
22. Manangkot MV, Saputra IK, Suindrayasa IM. Family's knowledge, attitude, and behavior in supporting self-care management of hypertensive patients of community health care centers in Denpasar. Enfermería Clínica 2020; 30: 78-81.
DOI: https://doi.org/10.1016/j.enfcli.2020.07.016
23. Surani V, Pranata L, Sestiyowati TE, Anggraini D, Ernawati S. Relationship between family support and self-care in hypertension patients. Formosa J Multidiscip Res 2022; 1(7): 1447-58.
DOI: https://doi.org/10.55927/fjmr.v1i7.1784
24. Asgari MR, Bouraghi H, Mohammadpour A, Haghighat M, Ghadiri R. The role of psychosocial determinants in predicting adherence to treatment in patient with hypertension. Interv Med Appl Sci 2018; 11(1): 8-16.
DOI: https://doi.org/10.1556/1646.10.2018.43
25. Khairy S, Aslan A, Samara AM, Mousa I, Alkaiyat AS, Zyoud SH. Factors associated with self-efficacy in patients with hypertension: A cross-sectional study from Palestine. J Heal Popul Nutr 2021; 40(1): 1.
DOI: https://doi.org/10.1186/s41043-021-00225-2
26. Warren-Findlow J, Seymour RB, Huber LRB. The association between self-efficacy and hypertension self-care activities among African American adults. J Community Health 2012; 37(1): 15.
DOI: https://doi.org/10.1007/S10900-011-9410-6
27. Yin Y, Lyu M, Chen Y, Zhang J, Li H, Li H, *et al.* Self-efficacy and positive coping mediate the relationship between social support and resilience in patients undergoing lung cancer treatment: A cross-sectional study. Front Psychol 2022; 13.
DOI: https://doi.org/10.3389/FPSYG.2022.953491
28. Bahari G, Scafide K, Krall J, Mallinson RK, Weinstein AA. Mediating role of self-efficacy in the relationship between family social support and hypertension self-care behaviours: A cross-sectional study of Saudi men with hypertension. Int J Nurs Pract 2019; 25(6): e12785.
DOI: https://doi.org/10.1111/ijn.12785
29. Chen TY, Kao CW, Cheng SM, Liu CY. Factors influencing self-care among patients with primary hypertension: Path analysis of mediating roles of self-efficacy and depressive symptoms. Eur J Cardiovasc Nurs 2023; 22(6): 620-7.
DOI: https://doi.org/10.1093/eurjcn/zvad011