

DOI : <http://dx.doi.org/10.70111/hg4213>

Submitted : March, 11 2026

Reviewed : April, 7 2026

Accepted : April, 28 2026

Family Support Education for Hypertension Patients: A Case Study of Blood Pressure Reduction

Rosyana Septyasih^{1*}, Swito Prastiwi², Eko Sari Wahyuni³

^{1,2,3} Department of Nursing, Poltekkes Kemenkes Malang

Corresponding author : hermawan.rossyana@gmail.com

ABSTRACT

Lack of family support in patients with hypertension is often influenced by family perceptions and limited knowledge regarding hypertension management. This condition may lead to inadequate attention to patients and poor adherence to treatment and preventive measures. In contrast, family attention, empathy, and involvement in patient care can positively influence patient behavior and improve psychological well-being. This study aimed to identify the level of family support among patients with hypertension before and after the implementation of family support education. This research employed a descriptive case study design involving two research subjects. Data were collected using a family support questionnaire covering emotional, informational, instrumental, and appraisal support. The findings showed that before the educational intervention, subject 1 had not met family support in all four aspects, with informational support being the lowest due to limited access to health information. Meanwhile, subject 2 showed the lowest score in instrumental support due to economic limitations. After the implementation of family support education, both subjects demonstrated improvements and fulfilled all four aspects of family support. It is recommended that families maintain these four aspects of support to enhance patient care, and future researchers are encouraged to conduct separate assessments between family members and patients to obtain more comprehensive results.

Keywords: Hypertension, Family support, Health education, Blood pressure control

Background

Hypertension is one of the most common non-communicable diseases (NCDs) worldwide and represents a major global public health challenge. It is characterized by persistently elevated blood pressure levels of $\geq 140/90$ mmHg and is often referred to as a “silent killer” because many individuals do not experience noticeable symptoms until complications occur (1). If not properly controlled, hypertension may lead to serious complications such as stroke, coronary heart disease, kidney failure, and other cardiovascular diseases (2). Globally, hypertension affects a large proportion of the population and continues to increase each year. The growing prevalence of hypertension has become a significant concern because it contributes to increased morbidity and mortality rates worldwide (3). Hypertension management requires long-term treatment and lifestyle modifications, including adherence to medication, dietary regulation, physical activity, and regular health monitoring.

One of the important factors influencing hypertension management is treatment adherence. However, adherence to hypertension treatment remains relatively low in many communities. Several factors contribute to poor adherence, including lack of knowledge, psychological barriers, socioeconomic conditions, and limited social support from family members (4). Family support plays a crucial role in assisting patients in managing chronic diseases such as hypertension. Family members often act as the primary caregivers who help patients maintain treatment routines, monitor dietary intake, remind medication schedules, and provide emotional encouragement (5). Patients who receive strong family support tend to demonstrate better treatment adherence and improved health outcomes (6). Previous studies have shown that family support significantly influences medication adherence and

health behavior among patients with hypertension. A study found that family support was significantly associated with medication adherence among elderly patients with hypertension. Family involvement can improve patients' motivation and strengthen their commitment to maintaining long-term treatment regimens.

Family support can be categorized into several dimensions, including emotional support, instrumental support, informational support, and appraisal support. Emotional support involves empathy, care, and encouragement that help patients maintain psychological well-being. Instrumental support refers to tangible assistance such as financial resources, transportation to health facilities, and assistance in treatment management. Informational support includes providing knowledge related to disease management and treatment procedures, while appraisal support refers to positive reinforcement and feedback that encourage patients to maintain healthy behaviors.

Despite the recognized importance of family support, many patients still experience limited support from their families due to lack of knowledge, economic constraints, and inadequate awareness about hypertension management. This condition can negatively affect treatment adherence and ultimately lead to uncontrolled blood pressure (7).

Based on preliminary observations conducted at Lawang Primary Health Center in 2024, there were approximately 320 patients diagnosed with hypertension in the service area, most of whom were elderly individuals. Interviews with several patients indicated that some patients did not receive adequate family support in managing their disease. Several families did not remind patients to take medication regularly, did not regulate dietary habits, and lacked knowledge about hypertension prevention and management. Therefore, educational interventions aimed at increasing family knowledge and awareness about hypertension may play an important role in improving family support for patients. Providing education to family members can enhance their ability to assist patients in managing their condition effectively and maintaining blood pressure control. Based on this background, the study aimed to identify the level of family support among hypertension patients before and after the implementation of family support education at Lawang Primary Health Center.

Methods

This study employed a descriptive quantitative case study design. The research focused on two family members who lived in the same household as patients diagnosed with hypertension. Participants were selected based on their ability to communicate effectively and their role as primary family caregivers.

Data were collected using a family support questionnaire, which measured four aspects of family support:

Emotional support, Instrumental support, Informational support, Appraisal support.

The educational intervention consisted of providing information and guidance to family members regarding hypertension management, including lifestyle modification, medication adherence, dietary restrictions, and emotional encouragement for patients. Data were collected before the educational intervention and followed up over three consecutive days after the intervention. The results were analyzed descriptively by comparing changes in family support scores across the four dimensions.

Results

This study involved two family members who lived in the same household with patients diagnosed with hypertension. Both respondents acted as primary caregivers and were responsible for assisting patients in daily disease management, including medication adherence, dietary control, and health monitoring.

Table 1. Demographic Characteristics of Respondents

Characteristics	Subject 1	Subject 2
Gender	Female	Female
Relationship with Patient	Family caregiver	Family caregiver

Characteristics	Subject 1	Subject 2
Living with Patient	Yes	Yes
Role in Patient Care	Primary caregiver	Family caregiver
Participation in Education	Participated in hypertension education	Participated in hypertension education

Both respondents were actively involved in providing care for patients with hypertension and participated in the educational intervention provided by the researchers.

Before the educational intervention, the level of family support among both subjects varied across the four dimensions of support: emotional, instrumental, informational, and appraisal support. Subject 1 demonstrated moderate emotional support but limited informational support. Subject 2 showed lower instrumental support due to economic constraints and limited involvement in the patient's treatment process.

Table 2. Family Support Before Educational Intervention

Type of Support	Subject 1		Subject 2	
	Score	Category	Score	Category
Emotional Support	60	Moderate	60	Moderate
Instrumental Support	60	Moderate	40	Low
Informational Support	40	Low	50	Low
Appraisal Support	55	Low	60	Low

The results indicate that before the intervention, family members had not fully provided comprehensive support for hypertension management.

After the educational intervention, improvements were observed in all four dimensions of family support.

Table 3. Family Support After Educational Intervention (Day 2)

Type of Support	Subject 1		Subject 2	
	Score	Category	Score	Category
Emotional Support	70	Moderate	75	Moderate
Instrumental Support	70	Moderate	50	Moderate
Informational Support	65	Moderate	65	Moderate
Appraisal Support	75	Moderate	65	Moderate

The data show that the educational intervention began to improve the level of family support for both subjects.

Table 4. Family Support After Educational Intervention (Day 3)

Type of Support	Subject 1		Subject 2	
	Score	Category	Score	Category
Emotional Support	85	Good	85	Good
Instrumental Support	95	Good	65	Moderate
Informational Support	90	Good	95	Good
Appraisal Support	85	Good	80	Good

The results demonstrate that family support improved significantly after the educational intervention, particularly in emotional and informational support.

Discussion

The findings of this study indicate that family involvement and education play an important role in improving hypertension management among patients. Family members who receive education about hypertension are more capable of providing support and guidance to patients in maintaining healthy behaviors, such as adhering to medication, controlling diet, and monitoring blood pressure regularly. Hypertension is one of the most common non-communicable diseases worldwide and is often referred to as the “silent killer” because it frequently occurs without obvious symptoms but can lead to severe complications such as stroke, heart disease, and kidney failure (8). Effective hypertension management therefore requires long-term lifestyle changes and adherence to treatment, which often depend on the support system available to patients, particularly their families.

Family support has been shown to significantly influence the ability of patients with hypertension to perform self-care behaviors. Support from family members can include emotional encouragement, assistance in monitoring medication schedules, preparation of healthy meals, and motivation to engage in regular physical activity (9). Studies have shown that patients with strong family support tend to have better adherence to treatment and improved blood pressure control compared to those with limited family involvement (10). These findings are consistent with previous research showing that emotional support from family members plays an important role in improving treatment adherence among hypertensive patients (11). Emotional encouragement, empathy, and attention from family members can strengthen patients’ motivation to maintain long-term treatment and lifestyle modification.

Instrumental support was also limited, particularly for subject 2 who experienced economic limitations. Instrumental support includes practical assistance such as providing financial resources, facilitating transportation to healthcare facilities, and helping manage medication schedules. Limited economic resources may prevent families from providing adequate support for healthcare needs. Previous studies have reported that socioeconomic status can influence the level of family support provided to patients with chronic diseases (12)(13). Families with lower income levels often face difficulties in accessing healthcare services and providing adequate treatment support (6)(14). These conditions may contribute to lower treatment adherence among patients with hypertension.

Informational support was identified as one of the weakest aspects before the educational intervention. Many family members lacked knowledge about hypertension management, including dietary regulation, medication adherence, and lifestyle modification. Lack of knowledge may lead to inappropriate health behaviors and inadequate disease management (15).

Educational interventions can significantly improve family knowledge and awareness regarding disease management. Providing health education to family members allows them to better understand the importance of medication adherence, blood pressure monitoring, and lifestyle modification (16). Research has demonstrated that family education programs can improve patient adherence to hypertension treatment by increasing family involvement in patient care (17). When families are well informed about the disease and its management, they are more likely to assist patients in maintaining healthy behaviors and adhering to treatment regimens. After the educational intervention, improvements were observed across all four dimensions of family support. Family members became more active in reminding patients to take medication, regulating dietary habits, and encouraging patients to maintain healthy lifestyles. These findings are consistent with studies showing that family support significantly influences treatment adherence and health outcomes among patients with hypertension (18). Family involvement in disease management can strengthen patients’ self-efficacy and improve their ability to control blood pressure effectively.

Conclusions and Recommendations

Family support for hypertension patients prior to the educational intervention was relatively insufficient across the four dimensions of emotional, instrumental, informational, and appraisal support. After the implementation of family support education, both subjects demonstrated improvements in all aspects of family support. These findings suggest that educational interventions aimed at family members can enhance their ability to provide effective support, which may contribute to better hypertension management and improved patient health outcomes.

Acknowledgment

The authors would like to thank the Lawang Primary Health Center for permitting and supporting this study. We also appreciate all hypertension patients and their family members who participated in this research and contributed to the successful implementation of the family support education program.

References

1. Iqbal, A. M., & Jamal SF. Essential hypertension. [Internet]. StatPearls Publishing; 2023. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK539859/>
2. Pan T, Li M an, Mu L wen, Zhu D, Qian J sheng, Li Z ran. Stent placement with iodine-125 seeds strand effectively extends the duration of stent patency and survival in patients with unresectable malignant obstructive jaundice. *Scand J Gastroenterol* [Internet]. 2020 Jan 2;55(1):123–8. <https://doi.org/10.1080/00365521.2019.1707275>
3. Fuernau G, Thiele H. Response by Fuernau and Thiele to Letters Regarding Article, “Mild Hypothermia in Cardiogenic Shock Complicating Myocardial Infarction: Randomized SHOCK-COOL Trial.” *Circulation* [Internet]. 2019 Jul 16;140(3). Available from: <https://doi.org/10.1161/CIRCULATIONAHA.119.041188>
4. Loscalzo J. Precision Medicine. *Circ Res* [Internet]. 2019 Mar 29;124(7):987–9. Available from: <https://doi.org/10.1161/CIRCRESAHA.119.314403>
5. 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* [Internet]. 2015 Mar 10;29(3):198–203. Available from: <https://doi.org/10.1038/jhh.2014.58>
6. Pan J, Hu B, Wu L, Li Y. The Effect of Social Support on Treatment Adherence in Hypertension in China. *Patient Prefer Adherence* [Internet]. 2021 Sep;15:1953–61. Available from: <https://doi.org/10.2147/PPA.S325793>
7. Duraibabu D, Leen G, Toal D, Neue T, Lewis E, Dooly G. Underwater Depth and Temperature Sensing Based on Fiber Optic Technology for Marine and Fresh Water Applications. *Sensors* [Internet]. 2017 May 27;17(6):1228. Available from: <https://doi.org/10.3390/s17061228>
8. Yi X, Abas R, Raja Muhammad Rooshdi RAW, Yan J, Liu C, Yang C, et al. Time-restricted feeding reduced blood pressure and improved cardiac structure and function by regulating both circulating and local renin-angiotensin systems in spontaneously hypertensive rat model. Afzal S, editor. *PLoS One* [Internet]. 2025 Apr 3;20(4):e0321078. Available from: <https://doi.org/10.1371/journal.pone.0321078>
9. Susanto T, Hernawati S, Yunanto RA, Rahmawati I, Laras Ati NA, Fauziah W. Family Self-management Program for Hypertension Management and Sodium Consumption Adherence: A Parallel Randomized Control Trial Among Family Caregivers and People With Hypertension. *J Res Health Sci* [Internet]. 2024 Sep 30;24(4):e00628. Available from: <https://doi.org/10.34172/jrhs.2024.163>
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* [Internet]. 2020 Jul 28;5:180. Available from: <https://doi.org/10.12688/wellcomeopenres.16146.1>
11. Linawati Togatorop. Family Emotional Support With Elderly Compliance In Hypertension Management. *Int J Heal Med* [Internet]. 2024 Jan 30;1(1):1–7. Available from: <https://doi.org/10.62951/ijhm.v1i1.106>
12. Luo Z ni, Li K, Chen A qi, Qiu Y chi, Yang X xi, Lin Z wen, et al. The influence of family health on self-efficacy in patients with chronic diseases: the mediating role of perceived social support and the moderating role of health literacy. *BMC Public Health* [Internet]. 2024 Dec 13;24(1):3398. Available from: <https://doi.org/10.1186/s12889-024-20906-x>
13. Wang X, Chu J, Zhao D, Gao T, Luo J, Wang X, et al. The impact of hypertension follow-up management on the choices of signing up family doctor contract services: does socioeconomic status matter? *BMC Prim Care* [Internet]. 2024 Apr 24;25(1):130. Available from:

-
- <https://doi.org/10.1186/s12875-024-02383-8>
14. Cordova-Ruiz GL, Fernández-Rodríguez LJ, Bardales-Zuta VH. Factores sociodemográficos asociados a la adherencia a la medicación en pacientes hipertensos del norte del Perú: un estudio transversal. *Arch Cardiol México* [Internet]. 2025 Aug 4;95(3). Available from: <https://doi.org/10.24875/ACM.24000137>
 15. Bosworth HB, Granger BB, Mendys P, Brindis R, Burkholder R, Czajkowski SM, et al. Medication adherence: A call for action. *Am Heart J* [Internet]. 2011 Sep;162(3):412–24. Available from: <https://doi.org/10.1016/j.ahj.2011.06.007>
 16. Rani M, Weadge JT, Jabaji S. Isolation and Characterization of Biosurfactant-Producing Bacteria From Oil Well Batteries With Antimicrobial Activities Against Food-Borne and Plant Pathogens. *Front Microbiol* [Internet]. 2020 Feb 27;11. Available from: <https://doi.org/10.3389/fmicb.2020.00064>
 17. Ruswadi I, Asyari H, Marsono M, Akhmadi A, Purwanta P. The Relationship Between Self Efficacy and Family Support With Hypertension Treatment Adherence of Elderly. *J Pendidik KEPERAWATAN Indones* [Internet]. 2023 Jun 30;9(1):59–68. Available from: <https://doi.org/10.17509/jpki.v9i1.59455>
 18. Trijayanti M, Parellangi P, Amiruddin A. The Relationship between Motivation and Family Support and Adherence to Taking Hypertension Medication in the Elderly. *KESANS Int J Heal Sci* [Internet]. 2025 Mar 24;4(2):101–10. Available from: <https://doi.org/10.54543/kesans.v4i2.181>