INDONESIAN HEALTH JOURNAL

Volume 5 Number 1, March 2026
pp. 186-195
E-ISSN: 2963-3036
DOI: 10.58344/ihj.v5i2.859

The Relationship between Family Support and Elderly Behavior in Hypertension Control in the Drajat Health Center Area, Cirebon City in 2020

Uun Kurniasih[1], R. Nur Abdurakhman[2], Teki Mahasih[3], Dewi Yulyanti[4]
Sekolah Tinggi Ilmu Kesehatan (STIKes) Cirebon, Indonesia
Corresponding Author: arshaq.rafasya@gmail.com[1], radenabdurakhman73@gmail.com[2], tmahasih@gmail.com[3], dewiyulyanty738@gmail.com[4],

Keywords:
family support; behavior of the elderly; hypertension control.

Abstract
Behaviors that may be associated with family support. Local evidence can help identify opportunities for family involvement in community care. This study examined the relationship between family support and hypertension-control behavior among older adults in the Drajat Community Health Center service area, Cirebon City, in 2020. A quantitative cross-sectional study included 25 respondents recruited using a reported total-sampling approach. Questionnaire data collected from July 17 to 20, 2020, were summarized descriptively. During revision, the original contingency table was reanalyzed using two-sided Fisher's exact testing because expected frequencies were small. Nineteen respondents (76%) had low family support and six (24%) had high support. Fifteen (60%) had low hypertension-control behavior and ten (40%) had high behavior. High behavior occurred in five of six high-support respondents (83.3%) and five of nineteen low-support respondents (26.3%). Fisher's exact test indicated an association ($p = 0.023$; unadjusted odds ratio = 14.00; approximate 95% confidence interval [1.30, 150.90]). Family support was associated with reported hypertension-control behavior among the participating older adults in this setting. Family involvement may be considered in community nursing education and follow-up. Small sample size, incomplete instrument documentation, and the historical cross-sectional dataset limit inference; causality and achieved blood-pressure control were not established.

This is an open access article under the CC BY-SA license.

Copyright © 2026 by Author. Published by
Riviera Publishing

INTRODUCTION

Hypertension remains a major global public health problem because its management requires sustained treatment and everyday self-care. The World Health Organization (2021) reported that approximately 1.28 billion adults aged 30–79 years had hypertension in 2019, almost twice the number recorded in 1990. Approximately 720 million people with hypertension were not receiving treatment, and blood pressure was controlled in fewer than one in four women and one in five men with the condition. These estimates concern adults aged 30–79 years rather than older adults alone, but they demonstrate a substantial gap between the

availability of treatment and effective long-term management. The global burden provides a rationale for examining the social conditions that support hypertension-related care in community settings.

Older adults experience changes in bodily functions as part of the aging process. One of the health problems commonly found in this population is hypertension. Hypertension management requires ongoing efforts because uncontrolled blood pressure can increase the risk of complications, including heart disease and stroke (Charchar et al., 2024; Dalimunthe et al., 2024; Upoyo et al., 2024) .

Hypertension management involves medication use and daily self-management practices (Irwan et al., 2022; Mbaseege et al., 2025). The present study focuses on questionnaire-based hypertension-control behavior rather than a clinical assessment of achieved blood pressure. This distinction matters because favorable reported behavior cannot itself establish that blood pressure is controlled. Recent evidence also indicates that self-management involves more than individual knowledge: in a community-based study of 1,697 adults with hypertension in Shanghai, social support and health literacy were associated with medication adherence (Guo et al., 2023; Konlan & Shin, 2023; Radhi & Balat, 2024) . Although medication adherence is narrower than the behavioral outcome considered here, this evidence supports examining the social context in which older adults manage their condition (Azwar, 2011; Firmansyah, 2017) .

The family serves as the primary support system for older adults. Family support can take the form of informational, appraisal (or esteem), instrumental, and emotional support. These forms of support can be provided through sharing health-related information, reminding older adults to take their medications, accompanying them during treatment, providing transportation assistance, and showing concern for their health conditions (Sya'diah, 2018) .

According to the preliminary study reported in the research document, five older adults with hypertension in the service area of the Drajat Community Health Center in Cirebon City were interviewed. Three reported that their families paid little attention to their health conditions, including failing to accompany them to health care appointments. The other two reported that their families sometimes reminded them to monitor their health and accompanied them to health care facilities for checkups. These preliminary findings provided the basis for investigating the relationship between family support and older adults' behavior in controlling hypertension.

The research gap is therefore contextual and empirical: the reviewed studies do not establish whether family support is associated with hypertension-control behavior among the older adults included in the Drajat service area in 2020. Evidence from another Indonesian community, broader social-support measures, and qualitative accounts cannot substitute for an assessment of this local relationship. The present study addresses that limited gap by examining family support alongside questionnaire-based behavioral classifications in the same participants. Its contextual novelty lies in documenting this relationship in an underrepresented primary care setting and connecting it to the locally reported variation in family involvement. It does not claim to introduce a new theory, establish an unstudied relationship internationally, or identify which support dimension produces a behavioral change.

The urgency of this investigation arises from the need to understand whether routine hypertension education should pay closer attention to the assistance available at home. The preliminary accounts suggest that access to reminders and accompaniment varies among older adults in the study setting. Describing this variation and its relationship with behavior can inform discussions about where family involvement might be helpful. Accordingly, this study aims to determine the relationship between family support and older adults' hypertension-control behavior in the service area of UPTD Puskesmas Drajat, Cirebon City, in 2020. The outcome concerns reported behavior, not clinically achieved blood-pressure control; the study is designed to identify an association rather than estimate the effectiveness of a family-based intervention.

This study aims to determine the relationship between family support and older adults' behavior in hypertension control in the service area of the Drajat Community Health Center (UPTD Puskesmas Drajat), Cirebon City, in 2020. The outcome concerns reported behavior, not clinically achieved blood-pressure control; the study is designed to identify an association rather than estimate the effectiveness of a family-based intervention. The expected scientific benefit is additional local evidence concerning the social context of hypertension self-management among older adults. For community health nurses and health center managers, the potential practical benefit is a basis for considering family-support assessment during education and follow-up. The anticipated practice implication is to explore, with the older adult's agreement, whether family participation in care discussions and appointment planning is feasible and appropriate. The research implication is the need for larger prospective studies using documented, validated instruments, relevant confounder measurements, and both behavioral and blood-pressure outcomes. These implications guide subsequent service development and research; the present small, single-center, cross-sectional study cannot establish causal effects or justify generalization to all older adults in Cirebon.

METHOD

This study employed a quantitative method with a cross-sectional design to determine the relationship between family support as the independent variable and older adults' behavior in hypertension control as the dependent variable (Creswell & Creswell, 2023) .

The study population consisted of older adults with hypertension residing in the service area of the Drajat Health Center (UPTD Drajat Health Center), Cirebon City. The study sample consisted of 25 respondents. The document specified that a total sampling technique was used.

Primary data were collected using a questionnaire distributed to the respondents. Before the respondents completed the questionnaire, the researcher explained the purpose and procedures of the study, requested their voluntary participation, and obtained their informed consent. The questionnaire was used to measure family support and older adults' behavior in hypertension control.

Data processing involved several stages: editing to check data completeness and consistency; coding to assign codes to responses; scoring to assign scores to questionnaire responses; tabulation to organize the data into tables; data entry to enter the data into a computer database; and data cleaning to identify and correct potential data entry errors.

Univariate analysis was conducted to describe the frequency distribution of each variable. Bivariate analysis was performed to assess the relationship between family support and older adults' behavior in hypertension control using the chi-square test, with the assistance of the Statistical Package for the Social Sciences (SPSS). The significance level was set at $\alpha = 0.05$, and a p-value ≤ 0.05 was interpreted as indicating a statistically significant relationship.

The study was conducted in the service area of the Drajat Health Center (UPTD Drajat Health Center), Cirebon City, in July 2020. The results section specified that data collection took place from July 17 to 20, 2020.

RESULTS AND DISCUSSION

Family Support

Table 1 shows that 19 of the 25 respondents (76.0%) were classified as receiving low family support, whereas six (24.0%) received high support. Thus, low support was the more frequent category in this sample. This describes the distribution of the original questionnaire categories and should not be interpreted as the prevalence of inadequate family care across the entire Drajat catchment population. The available aggregate data do not identify which support dimensions account for the low-support classification.

Table 1. Distribution of family support among respondents (N = 25)

Family support	Frequency (n)	Percentage (%)
Low	19	76,0
High	6	24,0
Total	25	100,0

Elderly Behavior in Hypertension Control

Table 2 shows that 15 respondents (60.0%) were classified as having low hypertension-control behavior and 10 (40.0%) as having high behavior. The outcome reflects questionnaire-based behavior rather than measured blood pressure, treatment success, or the absence of complications. Consequently, the table identifies variation in the recorded behavioral classification but cannot determine whether respondents met a clinical blood-pressure target. No item-level breakdown was available to identify which particular behaviors were least consistently practiced.

Table 2. Distribution of hypertension-control behavior (N = 25)

Hypertension control behavior	Frequency (n)	Percentage (%)
Low	15	60,0
Height	10	40,0
Total	25	100,0

The Relationship of Family Support to Elderly Behavior

The cross-tabulation results showed that, among respondents who received low levels of family support, 14 (73.7%) exhibited low levels of hypertension control behavior, while 5

(26.3%) exhibited high levels of hypertension control behavior. Among respondents who received high levels of family support, 1 (16.7%) exhibited low levels of hypertension control behavior, while 5 (83.3%) exhibited high levels of hypertension control behavior. The chi-square test yielded a p-value of 0.045, which was below the significance threshold of 0.05, indicating a statistically significant association between family support and elderly behavior in hypertension control.

Table 3. Family support and hypertension-control behavior (N = 25)

Family support	Low behavior n (%)	High behavior n (%)	Total n	p-value
Low	14 (73,7)	5 (26,3)	19	
Height	1 (16,7)	5 (83,3)	6	0,045
Total	15 (60,0)	10 (40,0)	25	0,045

Discussion

The findings indicated that respondents who received high levels of family support were more likely to exhibit high levels of hypertension control behavior than those who received low levels of family support. Family support may help older adults adhere to medication regimens and maintain lifestyle practices that promote blood pressure control, for example, through reminders, guidance, practical assistance, and emotional support (Dahlan & others, 2018) .

The study relates these findings to the concept of family support, which encompasses informational, appraisal, instrumental, and emotional support. Such support may strengthen older adults' motivation and help them access and utilize health care services. Therefore, health care professionals, particularly community health nurses, can involve family members in hypertension management education and follow-up care.

The observed pattern answers the study objective by showing an association between higher family support and a more favorable hypertension-control behavior category among the participating older adults (Choirunnida & Riasmini, 2025; Khasanah et al., 2024; Shen et al., 2022) . However, the association is based on six respondents in the high-support group, including only one with low behavior. The large odds ratio therefore requires particular caution. It describes relative odds at one observation period, not a fourteenfold increase in the probability of favorable behavior and not a causal treatment effect. The descriptive proportions provide useful context for interpreting the statistical result without overstating its precision or generalizability.

The direction of the result is consistent with the family-support framework used in the manuscript (Friedman, 2010) . Informational assistance, recognition, practical help, and emotional encouragement provide plausible ways through which family members might support daily care. For example, reminders may facilitate medication routines and accompaniment may reduce practical barriers to follow-up. These explanations remain interpretations because the present dataset reports only an overall support category. It cannot establish that any particular dimension produced the association, rank the dimensions, or show

whether respondents received the specific examples of support described in the conceptual framework.

Herlinah et al. (2013) examined 99 older adults in North Jakarta and reported associations between emotional, appraisal, informational, and instrumental support and hypertension-control behavior. Their findings agree with the direction of the Drajat association, but their broader assessment of support dimensions cannot be reproduced from the aggregate data available here. Their study also used a different sampling approach and a larger sample. Thus, the agreement concerns the general relationship rather than identical prevalence, instrument performance, or effect magnitude. The present analysis offers local corroboration while contributing less detail about the relative importance of support dimensions.

Lavenia Tamu Ina and Setyoningrum (2023) reported a positive association among 49 older adults at Puskesmas Lerep, using Kendall's tau. Their sample predominantly reported good family support, whereas the Drajat sample predominantly fell into the low-support category. This difference shows why descriptive distributions should be interpreted within their own settings. Differences in recruitment, category definitions, and participant characteristics could contribute, but these explanations cannot be tested using the available Drajat summaries. The correlation estimate in the Lerep study and the odds ratio reported here also summarize different quantities and should not be compared as equivalent measures of association.

International evidence provides a related, but narrower, comparison. Guo et al. (2023) studied 1,697 adults with hypertension in Shanghai and found associations of social support and health literacy with medication adherence. Their analysis considered pathways involving health literacy, whereas the present study measured neither health literacy nor mediation. Their social-support construct also extends beyond family support, and medication adherence is only one aspect of hypertension self-management. The shared direction strengthens the rationale for examining supportive relationships, but differences in constructs, population, and analytic methods prevent direct transfer of their estimates to the Drajat respondents (Sari, 2017) .

Susanto et al. (2024) provide a different form of evidence through a randomized study of a structured family self-management program in rural Indonesia. The trial allocated 126 participants and evaluated a 24-week intervention, reporting improvements in blood-pressure and self-management-related outcomes. This supports the practical relevance of involving family caregivers, but an intervention delivered over time is different from naturally occurring support measured once. The Drajat data cannot demonstrate that the same program would be effective locally. Instead, they identify a local association that could help motivate the design and prospective evaluation of a contextually appropriate family-oriented service (Cahyawaty, 2017) .

For community health nurses, the practical implication is to consider asking older adults about available family assistance during routine education and follow-up. With the older person's agreement, a family member could be included in discussions about care routines, appointment attendance, and barriers to self-management. These are practice considerations derived from the association and the wider literature, not interventions evaluated in this study. Nurses should avoid assuming that low reported support reflects family unwillingness, since financial constraints, work schedules, distance, or other circumstances were not measured. Any

local initiative should assess feasibility and preserve the older adult's preferences and autonomy (Nugroho, 2014) .

Measurement and historical context introduce additional uncertainty. The questionnaire source, scoring cutoffs, and validity and reliability evidence were unavailable, making the low and high categories difficult to reproduce or compare across studies. Self-reported behavior was not corroborated by clinical measurements. Data collected in July 2020 may also reflect circumstances different from those at submission in 2026. The available records do not describe whether COVID-19-related service changes affected participation or access to care, so no specific disruption is asserted. Updated studies should document recruitment and instrument properties, include clinical and behavioral outcomes, and use larger samples suitable for prespecified multivariable analysis (Nubatonis, 2015) .

Several limitations restrict interpretation. The small sample and single-center setting constrain precision and transferability. Cross-sectional measurement prevents determination of temporal order: stronger support might accompany favorable behavior, while an older person's health needs or behavior could also influence family involvement. Age, sex, education, living arrangements, medication use, disease duration, and other potential confounders were not available for adjustment. Accordingly, the observed association cannot be treated as independent of those factors. The study also provides no evidence that improving support would by itself lead to better behavior or blood-pressure control (Suardana et al., 2010) .

The findings should be interpreted in light of the study's limitations, including the relatively small sample size and the fact that the data were collected from a single health center's catchment area. These results indicate an association between family support and hypertension control behavior; they do not establish that family support directly causes behavioral changes.

The findings indicated that respondents who received high levels of family support were more likely to exhibit high levels of hypertension control behavior than those who received low levels of family support. Family support may help older adults adhere to medication regimens and maintain lifestyle practices that promote blood pressure control, for example, through reminders, guidance, practical assistance, and emotional support.

The study relates these findings to the concept of family support, which encompasses informational, appraisal, instrumental, and emotional support. Such support may strengthen older adults' motivation and help them access and utilize health care services. Therefore, health care professionals, particularly community health nurses, can involve family members in hypertension management education and follow-up care.

The findings should be interpreted in light of the study's limitations, including the relatively small sample size and the fact that the data were collected from a single health center's catchment area. These results indicate an association between family support and hypertension control behavior; they do not establish that family support directly causes behavioral changes.

CONCLUSION

In this study of 25 older adults in the catchment area of the UPTD Drajat Health Center in Cirebon City in 2020, 76% of respondents were categorized as receiving low levels of family

support, while 24% were categorized as receiving high levels of family support. Low levels of hypertension control behavior were observed in 60% of respondents, while 40% exhibited high levels of hypertension control behavior. The chi-square test revealed a statistically significant association between family support and elderly behavior in hypertension control ($p = 0.045$). Family involvement and education provided by health care professionals should be strengthened to support hypertension control behaviors among older adults.

FUNDING

The authors declare that no financial support was received for conducting this research and/or publishing this article.

CONFLICT OF INTEREST

The authors declare that this research was conducted without any commercial or financial relationships that could be interpreted as a potential conflict of interest.

AUTHOR CONTRIBUTION

Uun Kurniasih, R. Nur Abdurakhman, Teki Mahasih, and Dewi Yulyanti contributed to the conceptualization of the study, literature review and synthesis, interpretation of the findings concerning family support and hypertension-control behavior among older adults, manuscript preparation, and critical revision. All authors read and approved the final manuscript.

GENERATIVE ARTIFICIAL INTELLIGENCE USAGE STATEMENT

The authors acknowledge the limited use of generative artificial intelligence tools to support language refinement, grammar correction, and improvements in manuscript readability. All scientific content, analyses, interpretations, and conclusions were reviewed and verified by the authors. The authors take full responsibility for the accuracy, integrity, and final content of the manuscript.

REFERENCES

Azwar, S. (2011). *Attitudes and Behaviors: In Human Attitudes, Theory and Measurement*. Student Library.

Cahyawaty, M. I. (2017). *The relationship between family support and elderly behavior in hypertension control*.

Charchar, F. J., Prestes, P. R., Mills, C., Ching, S. M., Neupane, D., Marques, F. Z., Sharman, J. E., Vogt, L., Burrell, L. M., Korostovtseva, L., Zec, M., Patil, M., Schultz, M. G., Wallen, M. P., Renna, N. F., Islam, S. M. S., Hiremath, S., Gyeltshen, T., Chia, Y. C., … Tomaszewski, M. (2024). Lifestyle management of hypertension: International Society of Hypertension position paper endorsed by the World Hypertension League and European Society of Hypertension. *Journal of Hypertension*, *42*(1). https://doi.org/10.1097/HJH.0000000000003563

Choirunnida, A., & Riasmini, N. M. (2025). Family support and dietary adherence in older adults with hypertension: A cross-sectional study. *Nurse Professional Education Journal*, *1*(1). https://doi.org/10.67958/nurseedu.v1i1.6

Creswell, J. W., & Creswell, J. D. (2023). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). SAGE Publications.

Dahlan, A. K., & others. (2018). *Health of the Elderly*.

Dalimunthe, D. Y., Harahap, S., Siregar, W. D., & Agussalim. (2024). The Effect of Self-Management Education as a Family-Based Nursing Model on Blood Pressure Control in Patients with Hypertension. *Pakistan Journal of Life and Social Sciences*, *22*(1). https://doi.org/10.57239/PJLSS-2024-22.1.00434

Firmansyah. (2017). Factors related to family support in the primary resolution of hypertension. *JKP*, *5*(2).

Friedman, M. M. (2010). *Family Nursing Textbook: Research, Theory and Practice*. EGC.

Guo, A., Jin, H., Mao, J., Zhu, W., Zhou, Y., Ge, X., & Yu, D. (2023). Impact of health literacy and social support on medication adherence in patients with hypertension: a cross-sectional community-based study. *BMC Cardiovascular Disorders*, *23*(1). https://doi.org/10.1186/s12872-023-03117-x

Herlinah, L., Wiarsih, W., & Rekawati, E. (2013). The relationship between family support and elderly behavior in hypertension control. *Journal of Community Nursing*, *1*(2).

Irwan, A. M., Potempa, K., Abikusno, N., & Syahrul, S. (2022). Self-Care Management for Hypertension in Southeast Asia: A Scoping Review. In *Journal of Multidisciplinary Healthcare* (Vol. 15). https://doi.org/10.2147/JMDH.S367638

Khasanah, U., Kelliat, B. A., Afiyanti, Y., Besral, B., & Sari, D. W. (2024). The Problems and Needs of Self-Management Among Indonesian Older Adults With Hypertension: A Qualitative Study. *SAGE Open Nursing*, *10*. https://doi.org/10.1177/23779608241282915

Konlan, K. D., & Shin, J. (2023). Determinants of Self-Care and Home-Based Management of Hypertension: An Integrative Review. *Global Heart*, *18*(1). https://doi.org/10.5334/gh.1190

Mbaseege, A. K., Namatovu, J. F., Besigye, I., & Kiguli, S. (2025). Predictors of adherence to Hypertension Self-management practices among older persons attending a rural hospital in Uganda. *African Health Sciences*, *25*(2). https://doi.org/10.4314/ahs.v25i2.13

Nubatonis, R. (2015). *The relationship between elderly behavior and the incidence of hypertension at the Nglegok Health Center*.

Nugroho, T. (2014). *Health Problems in the Elderly*. Nuha Medika.

Radhi, M. M., & Balat, K. Z. (2024). Health Literacy and Its Association With Medication Adherence in Patients With Hypertension:A Mediating Role of Social Support. *Iranian Rehabilitation Journal*, *22*(1). https://doi.org/10.32598/irj.22.1.1989.1

Sari, Y. N. I. (2017). *Making Peace with Hypertension*. Bumi Medika.

Shen, Z., Ding, S., Shi, S., & Zhong, Z. (2022). Association between social support and medication literacy in older adults with hypertension. *Frontiers in Public Health*, *10*. https://doi.org/10.3389/fpubh.2022.987526

Suardana, W. I., Saraswati, N. L. G. I., & Wiratni, M. (2010). *Family support and quality of life of the elderly with hypertension*.

Sya'diah, H. (2018). *Nursing for the Elderly* (1st ed.). Indomedia Pustaka.

Upoyo, A. S., Sari, Y., Taufik, A., Anam, A., & Kuswati, A. (2024). The Effect of Online Group Education on Promoting Knowledge, Motivation, Self-Efficacy, Self-Care Behaviors and Preventing Uncontrolled Blood Pressure in Hypertensive Patients: A Quasi-Experiment Study. *SAGE Open Nursing*, *10*. https://doi.org/10.1177/23779608241299288