



ANALYSIS OF FAMILY SUPPORT FOR MEDICATION COMPLIANCE IN HYPERTENSIVE PATIENTS PARTICIPATING PROLANIS AT PUSKESMAS TEPUS 2

Maulana Faris Ikhzul Haq¹, Rachma Greta Perdana Putri³, Tira Alfiani Laariya⁴, Leonny Dwi Rizkita²

¹Student of The Faculty of Medicine, Ahmad Dahlan University, Yogyakarta

²Department of Pharmacology, Faculty of Medicine, Ahmad Dahlan University, Yogyakarta

³Department of Anatomical Pathology, Faculty of Medicine, Ahmad Dahlan University, Yogyakarta

⁴Department of Public Health, Faculty of Medicine, Ahmad Dahlan University, Yogyakarta

Keywords:

*Family Support,
Hypertension,
Medication compliance,
Prolanis*

Received: 17 February 2025

Revised: 15 April 2025

Accepted: 16 April 2025

Available online: 1 July 2025

Corresponding Author:

E-mail: leonny.rizkita@med.uad.ac.id

ABSTRAK

Introduction: The Indonesian Ministry of Health has released a list of the most diagnosed non-communicable diseases in 2023, and hypertension, or high blood pressure, was in the first position. One of the risk factors that cause an increase in the incidence of hypertension is patient non-compliance in implementing the therapy program. Family support is one of the factors that has a significant contribution as a patient booster in influencing patient compliance. The family has an important role in the process of supervision, maintenance, and prevention of hypertension complications. **Methods:** This study is a quantitative study with a cross-sectional approach. Sampling was carried out using the total sampling technique at Tepus 2 Puskesmas. The total is 43 hypertensive patients participating in Prolanis. Data collection was carried out by distributing family support questionnaires and Morisky Medication Compliance Scale (MMAS-8) questionnaires. Bivariate tests were performed using Chi Square and Spearman's rho tests. **Results:** Univariate results showed that most respondents had sufficient family support, as many as 28 people (65.1%), and a high level of compliance with taking medication, as many as 25 people (58.1%). From the bivariate results obtained, a p-value of 0.001 ($p < 0.05$) and an r-value of 0.478. **Conclusion:** There is a relationship between family support and adherence to medication compliance in hypertensive patients participating in Prolanis at Tepus 2 Puskesmas in 2023 with sufficient relationship strength and positive correlation (unidirectional); the better the family support.

Copyright ©2025 by Authors. Published by Faculty of Medicine, Universitas Diponegoro Semarang Indonesia. This is an open access article under the CC-BY-NC-SA (<https://creativecommons.org/licenses/by-nc-sa/4.0/>)

BACKGROUND

Hypertension, often known as high blood pressure, is the most common non-communicable disease by 2023, according to a list published by the Indonesian Ministry of Health (MOH).¹ An estimated 1.5 billion individuals worldwide are expected to suffer from hypertension by 2025, as the number of those with the condition continues to rise annually.² A person can be diagnosed with hypertension if their systolic blood pressure is at least 140 mmHg and/or their diastolic blood pressure is at least 90 mmHg on at-rest examination at least twice.^{3 4}

The Ministry of Health's Basic Health Research (Riskesmas) study found that the prevalence of hypertension rose from 25.8% in 2013 to 34.11% in

2018. Yogyakarta Special Region (DIY) has one of the highest rates of hypertension (32.86%), whereas Gunungkidul Regency has the highest rate in DIY (39.25%).⁵ Tepus 2 Puskesmas is one of the health facilities with the highest presentation of hypertensive patients, based on information from the profile of the Gunungkidul Regency Health Office. There were 590 people diagnosed with hypertension in 2023.⁶

Hypertension is frequently disregarded since people believe it to be a condition that doesn't need urgent treatment.⁷ Patient adherence to therapy is influenced by low awareness, lack of clinical symptoms, and ignorance. One of the major risk factors for increasing cases of hypertension is this



non-adherence. The ability of patients to take their prescriptions on time is critical to the effectiveness of their treatment. Blood pressure control is also affected by variables such as drug choice, cost, family support, and socioeconomic circumstances. To improve patient adherence and avoid long-term problems due to hypertension, family support is indispensable.⁸

Patients with hypertension need to take their medication as prescribed because regular use of antihypertensive drugs can lower blood pressure and reduce the risk of long-term damage to organs such as the heart, kidneys, and brain. However, if the use of antihypertensive drugs is not accompanied by adherence to treatment, it is not enough to produce long-term blood pressure control results.⁹ Family support is one of the factors that has a significant contribution as a patient booster in influencing patient compliance. Families have an important role in the process of supervision, maintenance, and prevention of hypertension complications.¹⁰

From the background described above, researchers are interested in knowing the relationship between family support and adherence to taking medication in hypertensive patients participating in Prolanis at Tepus 2 Puskesmas. Tepus 2 Puskesmas has a government program for government health insurance called program pengelolaan penyakit kronis/chronic disease management program (Prolanis). The program manages patients with diabetes mellitus and/or hypertension.

METHODS

This study is a quantitative study with a cross-sectional approach. The method used is an analytic approach that aims to see the relationship between family support and adherence to taking medication in hypertensive patients. The sampling technique in this study used a non-probability sampling technique with a total sampling type so that the entire population in this study was sampled. The inclusion criteria in this study were 1) Hypertensive patients who follow Prolanis activities regularly at Puskesmas Tepus 2 in the last year. 2) Hypertensive patients who follow Prolanis activities regularly in the last 1 year. Then for exclusion criteria include: 1) Hypertensive patients participating in Prolanis who do not live in the same house with family members. 2) Hypertensive patients participating in Prolanis who

were not present at the time of the study at Prolanis activities. 3) Hypertensive patients participating in Prolanis who did not fill out the questionnaire completely.

The assess the family support, questionnaire from Nursalam (2017) which has been tested for its validity and reliability (Cronbach alpha 0,628) is used. The scale used is a Likert scale, where the answer criteria are stated in various levels, namely always = 4; often = 3; sometimes = 2; and never = 1. Interpretation of the results of the family support questionnaire is less 12 - 23 or 25% - 49%, enough 24 - 35 or 50% - 74%, and good 36 - 48 or 75% - 100%. The questions in the questionnaire comprises elements about emotional support & appreciation (numbers 1-4), instrumental support (numbers 5-8), and information support (numbers 9-12). Interpretation of the results of the emotional support & appreciation, instrumental, and information question points is less 4 - 7 or 25% - 49%, enough 8 - 11 or 50% - 74%, and good 12 - 16 or 75% - 100%.¹¹

The evaluation of medication adherence is derived by assessing several questions from Indonesian version of *Morisky Medication Adherence Scale 8* (MMAS-8). The questions consist of 8 items with a rating scale using the guttman scale and the likert scale. Questions number 1-7 use the guttman scale to get a firm answer from the respondent with the answer criteria yes = 0 and no = 1. Question 1 to 5, if the answer "yes" then it's set as value 1 and "no" gets a value of 0. Then question number 8 uses a likert scale with the criteria, namely never = 1; once in a while = 0.75; sometimes = 0.5; usually = 0.25; always = 0.¹²

Data analysis used in the study was univariate and bivariate analysis. Univariate analysis to describe data on subject characteristics. Bivariate analysis was done using the Chi-Square test followed by Spearman's rho test to see the strength between the variables studied.

RESULTS

Data obtained from respondents described the demographic characteristics of patients in terms of age, gender, marital status, education, occupation, economic status, and living with family.



Maulana Faris Ikhzul Haq, Rachma Greta Perdana Putri, Tira Alfiani Laariya, Leonny Dwi Rizkita

Table 1. Patient Characteristics

	Characteristics	F	%
Age	19-44 years	2	4.7
	45-59 years	24	55.8
	≥ 60 years	17	39.5
	Total	43	100.0
Gender	Male	10	23.3
	Female	33	76.7
	Total	43	100.0
Marriage Status	Married	41	95.3
	Not Married	2	4.7
	Total	43	100.0
Education	Elementary school	23	53.5
	Junior high school	15	34.9
	Senior high school	5	11.6
	Total	43	100.0
Occupation	Farmers	36	83.7
	Housewife	5	11.6
	Self-employed	1	2.3
	Retired	1	2.3
	Total	43	100.0
Economic Status	Low	38	88.4
	Medium	3	7.0
	High	1	2.3
	Very High	1	2.3
	Total	43	100.0
Living with Family	Yes	43	100.0
	Total	43	100.0

Table 1 shows that most of the respondents were aged 45-59 years 55.8%, female 76.7%, and married 95.3%. The majority of respondents had an elementary school education, as much as 53.5%. Based on occupation, most of the respondents' occupations were farmers, as much as 83.7%. Low economic status was the highest at 88.4%, and all respondents lived with family as much as 100%.

Table 2. The results of Chi-Square analysis of the relationship between family support and the level of adherence to taking medication in hypertensive patients participating in Prolanis at Puskesmas Tepus 2 in 2023.

Family Support	Medication compliance			F	P
	Low	Medium	High		
Enough	1	16	11	28	.001
Good	1	0	14	15	
Total				43	

Table 3. The results of Spearman's analysis of the relationship between family support and the level of adherence to taking medication in hypertensive patients participating in Prolanis at Puskesmas Tepus 2 in 2023.

Spearman's rho	Family Support	Correlation Coefficient	Family Support	Medication compliance
		Sig. (2-tailed)	-	.001
		Total	43	43
	Medication compliance	Correlation Coefficient	.478	1.000
		Sig. (2-tailed)	.001	-
		Total	43	43

The results of this study were conducted using the Chi Square test. From the test results obtained a p-value of 0.001 ($p < 0.05$). Based on statistical tests, it can be found that there is a relationship between the relationship between family support and the level of adherence to taking medication in hypertensive patients participating in Prolanis at Tepus 2 Puskesmas in 2023.

The Spearman's rho test was also used in this study's bivariate analysis to assess the strength of the association between medication compliance and family support. The sig value was derived from the test results. The degree of medication compliance among hypertension patients receiving Prolanis at Tepus 2 Puskesmas in 2023 is correlated with family support (2-tailed) 0.001 ($p < 0.05$). The higher the degree of family support, the higher the level of medication compliance in hypertension patients, according to the correlation coefficient value of 0.478, which shows that the association is sufficiently strong and positive (unidirectional).

DISCUSSION

According to the results of the study, 43 people with hypertension followed Prolanis. Age, gender, marital status, latest education, occupation, financial condition, and number of family members were some of the parameters examined in this study.



According to the age group's characteristics, most hypertension patients were aged of 45 - 59 years, 24 people (55.8%). According to the researcher's analysis, as people age, their cardiovascular systems will deteriorate, which will raise the risk of developing hypertension. One of the primary causes of hypertension is aging, which is brought on by normal alterations in the heart, blood vessels, and hormones. Increased arterial stiffness and endothelial dysfunction are linked to age in hypertension, especially systolic hypertension in older persons.¹³

Based on gender characteristics, the results showed that most hypertension patients were female, as many as 33 people (76.7%). There are many layers to understand the plausible connection of sex-specific pathophysiology in certain disease. Although it's estimated approximately 600 million women worldwide have been diagnosed with hypertension, the strong correlation to explain the event is limited. However, pre-existed health condition in women, for example obstetric and gynecological disturbances are well-known in inducing hypertension. In addition, for some area, diversity in accessing medical facility in terms of gender is still part of the global health problem. Therefore, the number of hypertension cases found in women will likely to increase.¹⁴

Based on the characteristics of the last education, respondents have a variety of education consisting of elementary, junior high, and high school. The frequency distribution data shows that 23 respondents graduated from elementary school (53.5%). Based on the data, the majority of respondents only have a primary school education. People with higher levels of education are better informed about health issues, such as hypertension, and are more likely to embrace and adopt healthy lifestyle choices, such as eating a balanced diet, exercising and maintaining a healthy weight. A person's level of education affects how well they receive and absorb information, which in turn affects their health. One can avoid triggers if they have enough information about the causes, risk factors, symptoms, and boundaries of stable and unstable blood pressure.¹⁵

Based on economic status characteristics, respondent groups are divided into low, medium, high, and very high Economic status is seen from the income earned each month. Based on the results of the study, respondents mostly have low economic

status as many as 38 people (88.4%). According to this, in addition to lifestyle factors, low economic status may also contribute to the risk of hypertension. The majority of them are lower-middle-class individuals who would rather satisfy their needs. Due to the inclination of people who live alone and their memory starting to deteriorate, they occasionally disregard medical professionals' recommendations about the treatment of hypertension, even though they are aware that they have it. The study's findings are consistent with previous research¹⁶, indicates the risk of hypertension is higher in low-income groups than in high-income groups, and the prevalence of hypertension is significantly higher in low- and middle-income countries.

Relationship between Family Support and Level of Medication Compliance in Hypertension Patients Participating in Prolanis

An analysis of 43 respondents revealed a significant relationship between the degree of Medication compliance in hypertension patients and family support. The findings of the Spearman's rho test then demonstrated that the amount of medication compliance in hypertensive patients was positively correlated (unidirectional) and the relationship's strength was adequate.

These results are in line with the research conducted.¹⁷ The research conducted at the Towuntu Timur Puskesmas, Southeast Minahasa Regency on 120 respondents there is a relationship between the family support variable and the medication compliance level variable.

The level of medication compliance in hypertensive patients can be influenced by several factors, including patient demographics, family support, distance from medical facilities, relationship between patients and doctors, and patient education. To maintain the health of family members, the family serves as the most important health care unit and provides health services to improve health. Patients with hypertension can benefit from family support by being reminded to take their medication, understanding their condition, and encouraged to actively participate in their treatment.¹⁸ As the patient's closest people, the family also plays a role in supporting, motivating, and monitoring the patient during therapy to instill confidence in the patient's ability to recover.¹⁹



In this case, the family has an important role during the patient's treatment period, from the time the patient is initially diagnosed until the patient successfully completes his/her treatment. Family support that can be given is in the form of emotional support and appreciation, instrumental support, and information support.²⁰

According to research conducted by²¹, there are several factors that influence family support. Patients with high-income families have good instrumental support. The higher the family income, the easier it is for patients to go to health services and get facilities that can support patient recovery. Patients who have families with high levels of education tend to get good family support. Family members with higher education have good communication and interpersonal relationship skills. They also tend to have good knowledge so they can convey information related to hypertension to patients, both regarding the impact of the disease and preventive measures²¹. However, our study is limited to incapability of explaining the real interpolation between each variables in wider community as well as it didn't check neither measure the type or the remaining of patient's anti-hypertensive medication to precisely link medication adherence with other variables.

CONCLUSION

Based on the results of the study, it can be concluded that family support has significant relationship to the level of Medication compliance in hypertensive patients participating in Prolanis at the Tepus 2 Puskesmas. The relationship between family support and medication compliance has shown positive correlation (unidirectional) and the relationship's strength was adequate.

REFERENCES

1. Kemenkes. Laporan Pengendalian dan Pencegahan Penyakit. 2023;
2. Go AS, Mozaffarian D, Roger VL, Benjamin EJ, Berry JD, Blaha MJ, et al. AHA Statistical Update Heart Disease and Stroke Statistics — 2014 Update A Report From the American Heart Association WRITING GROUP MEMBERS. 2023.
3. Perki. Pedoman Tatalaksana Hipertensi Pada Penyakit Kardiovaskular. Physical Review D. 2015;42(7):2413.
4. Muhadi. JNC 8 : Evidence-based Guideline Penanganan Pasien Hipertensi Dewasa. Cermi Dunia Kedokteran. 2016;43(1):54–9.
5. Murwani A, Sari Fatimah, Julia K J. Pendidikan Kesehatan Hipertensi dan Cek Kesehatan di Dusun Tambalan, Pleret, Bantul, Yogyakarta. The Journal of Community Service. 2023;1(1):1–5.
6. Dinkes G. Profil Kesehatan Kabupaten Gunungkidul tahun 2023. Dinas Kesehatan Kabupaten Gunung Kidul. 2023;173.
7. Widyaningrum D, Retnaningsih D, Tamrin. Hubungan Dukungan Keluarga Dengan Kepatuhan Minum Obat Pada Lansia Penderita Hipertensi (Devi Widyaningrum 1) , Dwi Retnaningsih 2) , Tamrin 3). Jurnal Ilmu Keperawatan Komunitas. 2019;2(2):21–6.
8. Darnindo N, Sarwono J. Prevalence of noncompliance of control visits in hypertensive patients treated at primary referral hospitals and related factors. Jurnal Penyakit Dalam Indonesia. 2017;4(3):123–7.
9. Misgiyanto, Susilawati D. Hubungan Antara Dukungan Keluarga Dengan Tingkat Kecemasan Penderita Kanker Serviks Paliatif. Jurnal Keperawatan Indonesia. 2019;22(2):92–100.
10. Pramana GA, Dianingati RS, Saputri NE. Faktor-Faktor yang Mempengaruhi Kepatuhan Minum Obat Pasien Hipertensi Peserta Prolanis di Puskesmas Pringapus Kabupaten Semarang. Indonesian Journal of Pharmacy and Natural Product. 2019;2(1):52–8.
11. Nursalam N. Metodologi Penelitian Ilmu Keperawatan Pendekatan Praktis. Jakarta: Salemba Medika; 2017.
12. Riani DA, Putri LR. GAMBARAN KEPATUHAN MINUM OBAT PADA PASIEN HIPERTENSI DEWASA DI PUSKESMAS KABUPATEN SLEMAN DAN KOTA YOGYAKARTA. Jurnal Penelitian Multidisiplin [Internet]. 2023;1:310–20. Available from: <https://doi.org/10.55681/armada.v1i1.495>
13. Luh N, Ekarini P, Wahyuni JD, Sulistyowati D, Keperawatan J, Kemenkes P, et al. Faktor-Faktor Yang Berhubungan Dengan Hipertensi Pada Usia Dewasa. JKEP. 2020;5(1).



Maulana Faris Ikhzul Haq, Rachma Greta Perdana Putri, Tira Alfiani Laariya, Leonny Dwi Rizkita

14. Chapman N, Ching SM, Konradi AO, Nuyt AM, Khan T, Twumasi-Ankrah B, et al. Arterial Hypertension in Women: State of the Art and Knowledge Gaps. Vol. 80, Hypertension. Lippincott Williams and Wilkins; 2023. p. 1140–9.
15. Baringbing EP. Pengaruh Karakteristik Pendidikan dengan Kejadian Hipertensi pada Pasien Rawat Jalan di RSUD dr. Doris Sylvanus Provinsi Kalimantan Tengah. Jurnal Surya Medika. 2023;9(3):124–30.
16. Lestari YI, Nugroho PS. Hubungan Tingkat Ekonomi dan Jenis Pekerjaan dengan Kejadian Hipertensi di Wilayah Kerja Puskesmas Palaran Tahun 2019. Borneo Student Researh. 2020;1(1):269–73.
17. Pricilya Molintao W, Ariska, Orfna Ambitan R. Hubungan Dukungan Keluarga Dengan Kepatuhan Minum Obat Pasien Hipertensi Di Puskesmas Towuntu Timur Kabupaten Minahasa Tenggara. Journal Of Community and Emergency. 2019;7(2):156–69.
18. Setiyaningrum A, Prasestiyo H. Hubungan dukungan keluarga dengan kualitas hidup pasien hipertensi di Puskesmas Mantrijeron Yogyakarta The relationship between family support and quality of life of hypertension patients at Puskesmas Mantrijeron , Yogyakarta. 2024;2(September):303–9.
19. Al-Temimi AA, Krishnan S, Sandhu AK, Ali Bangash NS. Medication Nonadherence: Implications for patient health outcomes in pharmacy practice. Indonesian Journal of Pharmacy. 2021;32(4):416–28.
20. Saidi SS, Abdul Manaf R. Effectiveness of family support health education intervention to improve health-related quality of life among pulmonary tuberculosis patients in Melaka, Malaysia. BMC Pulmonary Medicine. 2023;23(1):1–9.
21. Kavga A, Kalemikerakis I, Konstantinidis T, Tsatsou I, Galanis P, Karathanasi E, et al. Factors associated with social support for family members who care for stroke survivors. AIMS Public Health. 2022;9(1):142–54.