

Family Support Improves Hypertensive Patient Drug Compliance

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ABSTRACT

Family support is one of the support types with the aim of achieving optimal blood pressure control for patients with high blood pressure. This study aimed to analyze the relationships between family support, adherence to taking medication and blood pressure control in patients with hypertension in the RSUD. Prof. Dr. W. Z. Johannes Kupang. The design of this study was descriptive correlational through a cross-sectional approach. The population was the hypertensive patients in the hospital of Prof. Dr. W. Z. Johannes Kupang. The sample consisted of 200 respondents recruited using simple random sampling. The independent variable was family support while the dependent variables were compliance with taking medication and blood pressure. The data was collected using a questionnaire and observation checklists. The data was analyzed using Spearman Rho with a significance level of $\alpha = 0.05$. The results showed that there were relationships between family support and medication adherence ($p = 0,000$), adherence to taking medication and systolic blood pressure ($p = 0,000$) and medication compliance with diastolic blood pressure ($p = 0,000$). It can be concluded that family support correlates with the patients' compliance when taking medication and blood pressure. Further research is recommended to examine the causes of poor medication adherence among patients with good family support.

Keywords: Family support, medication adherence, hypertensive patients, blood pressure

Introduction

Hypertension has a high prevalence rate in the population in general. Although there is extensive drug availability, only about 25% of hypertensive patients have controlled blood pressure.¹ Hypertensive patients experience difficulties in adhering to antihypertensive treatment. Poor adherence to hypertension drugs not only results in uncontrolled blood pressure but it also becomes a major risk factor for other diseases, such as coronary heart disease, cerebral thrombosis, stroke and chronic kidney failure.²

The World Health Organization (WHO) records that 26.4% of people worldwide are suffering from

hypertension. This is around 972 million people. This number is likely to increase to 29.2% in 2025.³ Of the 972 million people with hypertension, 333 million are in developed countries and 639 are in developing countries, including Indonesia.⁴ According to the National Health Indicator Survey (Circular) data, only 30% of hypertensive patients take antihypertensive medication. Hypertension ranks 5th in the most common diseases in NTT with 39,344 patients.⁵

Efforts have been made by RSUD.Prof.Dr.W.Z. Johannes Kupang-NTT through the doctors and nurses to enhance the patients' compliance. However, this has yet to show optimal results. Adherence to treatment is very important in patient care because it can reduce recurrence and achieve controlled blood pressure.⁶ Non-adherence in taking hypertension medication can cause recurrence, resulting in an increase in the number of hypertensive patients who visit the hospital. Low adherence to antihypertensive drugs has also been observed among hypertensive patients, where more than half of them do not achieve controlled blood pressure, so giving in to

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the disease where their quality of life decreases.⁷these studies mainly focused on hypertensive patients in urban areas. More information regarding prevalence and the correlated factors for medication adherence for rural patients with hypertension is needed to better control blood pressure and prevent hypertension-related complications. Methods The study was carried out in three township hospitals in Shanxi Province (Northern China) Family support has been proven to align positively with the health outcomes for various medical conditions, including patients who are in inpatient care in hospitals.^{8,9} Family support can be defined as the assistance and protection given to the family members.¹⁰⁻¹²

Based on the description above, in this study, the researchers tried to explain the relationship of family support with adherence to taking medication in patients with hypertension who had experienced a relapse in the work area of the RSUD Prof.DR.W.Z. Johannes Kupang-NTT.

Method

This study used a descriptive correlational design through a cross-sectional approach. This research was carried out in the RSUD Prof.DR.W.Z Johannes Kupang-NTT hospital in December 2018. The population consisted of 403 hypertensive patients. The sample was 200 hypertensive respondents recruited through simple random sampling. The independent variable was family support. The dependent variables were adherence to taking the medication and blood pressure. The data collection was carried out by the researchers through the use of a questionnaire and observation check lists. The data was then analyzed using Spearman Rho with a significance level of $\alpha = 0.05$.

Results

Table 1 describes the participants' characteristics. It can be seen from Table 1 that the respondents with hypertension were mostly female (60.5%). Nearly half of the respondents were aged more than 65 years (33.5%), were mostly married (99.5%) and almost half had a secondary level of education (grades 10-12). They worked as entrepreneurs (37%) with their income mostly being less than Rp. 1,660,000 (60.0%).

Table 1: Respondents' characteristics-Family support improves hypertensive patient drug compliance

Characteristics of respondents		n = 200	%
Sex	Male	79	39.5
	Female	121	60.5
Age	35-45 years	42	21
	46-55 years	36	18
	56-65 years	55	27.5
	>65 Years	67	33.5
Education	No school	38	19
	Basic Education (grades 1-6)	18	9
	Basic Education (grades 7-9)	8	4
	Secondary Education (grades 10-12)	82	41
	higher education	54	27
Employment	Does Not Work	59	29.5
	Labourer	15	7.5
	Entrepreneur	74	37
	Civil Servants	41	20,5
	Etc	11	5.5
Income	< Rp. 1.660.000	121	60.6
	>Rp. 1.660.000	79	39.5
marriage	Married	199	99.5
	Single	1	0,5

Table 2 resumes the family characteristics. It was found that the majority of the patient's family were female (66.5%), had a secondary level of education (57.5%), were entrepreneurs (56%) and were mostly aged 26 - 35 years (54.5%). Nearly all of the families were married (93%) and more than half (56%) were the patients' offspring.

Table 2: Family characteristics in RSUD. Prof. DR. W. Z. Johannes Kupang-NTT

Family characteristics		n = 200	%
Sex	Male	67	33.5
	Female	133	66.5
Education	Basic Education (grades 1-6)	9	4.5
	Basic Education (grades 7-9)	6	3
	Secondary Education (grades 10-12)	115	57.5
	higher education	70	35
Employment	Does Not Work	29	14.5
	entrepreneur	112	56
	Civil Servants/Army/Police	57	28.5
	Retired	2	1

Conted...

Age	26-35 years	109	54.5
	36-45 years	45	22.5
	46-55 years	29	14.5
	56-65 years	14	7
	>66 years	3	1.5
Marriage	Married	186	93
	Single	14	7
Relationship to patient	Husband	44	22
	Wife	40	20
	Child	112	56
	Brother/sister	4	2

Table 3 presents the relationship between family support and medication adherence among the patients with high blood pressure. As illustrated in Table 3, in general, the majority of the respondents (91%) received strong family support, strong emotional and appreciation support (94.5%), strong instrumental support (88%) and moderate information support (67%). As predicted, most individuals who received strong family support (53%) adhered to their hypertension medication regimens; adversely, individuals with weak family support showed poor adherence to taking the hypertension medication.

Table 3: Family support and medication adherence in RSUD. Prof.DR.W.Z. Johannes Kupang-NTT

Family Support	General		Emotional appreciation		Instrumental		Information		Adherence to Taking the Medicine			
	n	(%)	n	(%)	n	(%)	n	(%)	Nonadherents		Adherents	
									n	%	n	%
Weak	3	1.5	3	1.5	7	3.5	22	11	2	1	1	0.5
Moderate	15	7.5	8	4	17	8.5	44	22	11	5.5	4	2
Strong	182	91	189	94.5	176	88	134	67	76	38	106	53

n = 200, Spearman Rho, p: 0.000, r: 0.295

The statistical analysis using the Spearman Rho showed a significance correlation ($p = 0,000$) with a coefficient correlation of $r = 0,295$; there was a relationship between family support and medication compliance in hypertensive patients with a sufficient correlation and positive direction. This implies that the higher the family support, the higher someone's obedience to taking the medicine.

Table 4: Drug compliance in hypertensive respondents in RSUD. Prof.DR. W.Z. Johannes Kupang-NTT

Adherence to taking medicine	Drug compliance (n = 200)	Stop/reduce medication with reasons (n = 200)						
		Forget (%)	Deliberately skip(%)	Felt worse (%)	Travel (%)	Felt healthy (%)	Disturbed by obligation (%)	Difficulties in taking the medication (%)
Non-adherent	44.5 %	41.5	21	69.5	42.5	34	65.5	65.5
Adherent	55.5 %	58.5	79	30.5	57.5	66	34.5	34.5

Table 4 summarises the drug compliance among the respondents. It is revealed that the level of adherence of the respondents concerning taking their medication was mostly obedient (55.5%) and that more than half of the respondents never forgot to take their medication (58.5%), nor did they deliberately skip their medication either (71%). Nevertheless, some respondents said that they stopped/reduced their medication for varied reasons: felt worse (69.5%), disturbed by the obligation (65.5%) and experienced some difficulties when taking the medication (65.5%). The bigger proportion of respondents complied with taking the medication

although when they were travelling (57.5%) and felt healthy (66%).

Table 5 shows the relationship between medication adherence and blood pressure. As can be seen from Table 5, most hypertensive patients obeyed when it came to taking their medication (55.5%). Additionally, among the patients who adhered to taking their medicine, most of them showed normal both systolic (47.5%) and diastolic (39%) blood pressure. Adversely, a small percentage of patients with poor adherence showed a mild increase in diastolic blood pressure (19.5%).

The Spearman Rho analysis showed there to be a significant relationship between medication adherence and systolic blood pressure ($p = 0,000$) with a coefficient correlation of $r = -0,536$. This shows a strong

relationship between medication adherence and systolic blood pressure with the direction of the relationship being negative; the higher compliance with hypertensive medication, the lower the systolic blood pressure.

Table 5: Relationship between medication adherence and blood pressure in RSUD. Prof.DR.W.Z. Johannes Kupang-NTT

Adherents Take Medicine	Systolic Blood Pressure						Diastolic Blood Pressure						Total	
	Normal		Mild		Medi-um		Normal		Mild		Medi-um			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Nonadhe-rents	34	17	23	11.5	32	16	39	19.5	39	19.5	11	5.5	89	44.5
Adherents	95	47.5	12	6	4	2	78	39	27	13.5	6	3	111	55.5
Total	129	64.5	35	17.5	36	18	117	58.5	66	33	17	8.5	200	100
<i>Spearman Rho, p : 0,000, r : - 0.536</i>							<i>Spearman Rho, p : 0,000, r : - 0.298</i>							

Furthermore, the Spearman Rho statistical test showed there to be a significant correlation between adherence and diastolic blood pressure ($p = 0,000$) with a sufficient coefficient correlation ($r = - 0,298$). Thus it can be concluded that there was a sufficient relationship between medication adherence and diastolic blood pressure with a negative direction; the higher the patient's compliance, the lower the diastolic blood pressure.

Additionally, this study found that a small proportion of respondents received weak instrumental support such as finance and the facilities that they need. This lack of support was related to having a low income. This supports the previous research which concluded that a lack of instrumental support may cause non-compliance in treatment because the families are unable to provide for their treatment-related needs.^{15,16}

Discussion

The study showed there to be a positive-direction-relationship between family support and the medication adherence of hypertensive patients; in other words, the higher the family support, the better the patient's adherence to taking their medication. This supports the theory of the Health Belief Model by Rosenstock, which states that family support plays a role as an external factor that influences the respondents to taking treatment actions.¹³ Family supports includes emotional, appreciation and the instrumental and information support that will have an impact on compliance. Good family support provided by the family members to the patients can help with the healing process.¹⁰

This study found there to be a relationship between medication adherence in patients with hypertension and systolic blood pressure in a negative direction, where the better the adherence, the better the systolic blood pressure control achieved. This supports the existing literature which proves a relationship between adherence to taking antihypertensive drugs to blood pressure in hypertensive patients both systolic and diastolic blood pressure.^{7,17-19} these studies mainly focused on hypertensive patients in urban areas. More information regarding prevalence and the correlated factors for medication adherence for rural patients with hypertension is needed to better control blood pressure and prevent hypertension-related complications. Methods The study was carried out in three township hospitals in Shanxi Province (Northern China) The success of the patients in treating their hypertension greatly influences their controlled blood pressure. The success factors are related to the patient's compliance in taking medication and family support.

This study revealed that in Kupang, Indonesia, almost all of the respondents received strong emotional and appreciation family support, where the family always accompanies, loves and cares for the family members during their treatment. This form of support makes the individuals feel comfortable, confident, felt accepted, loved, secure and content.¹⁴ These forms of support are very important because hypertensive patients need both emotional support and sufficient appreciation so then the patients feel loved and keep up the treatment.

In this study, most of the respondents continued to take their medication even when they felt healthy (no symptoms). The success of the treatment of hypertensive patients is influenced by the active role of the patient and his willingness to regularly see the doctor. There is also

their adherence to taking antihypertensive drugs. The respondents who did not stop taking their medication even when they felt healthy mostly had normal systolic blood pressure. This confirms the previous literature which found that adherence has a significant effect on decreasing systolic blood pressure.^{18,19}

Most respondents received good informational support. The family members provided the respondents with information, which in turn enhanced the respondents' medication adherence. This finding supports another study that found the family support can strengthen each individual, increase self-respect, and that it has the potential to be the main prevention strategy for the whole family in facing the challenges of everyday life.^{11,17} Moreover, the research by Turan et al. concluded that the level of perceived support from the families was higher than the perceived level of support from friends or other individuals.¹⁷ These confirm the importance of enhancing family support for each hypertensive patient.

Moreover, the study showed there to be a relationship between medication compliance in patients with hypertension and diastolic blood pressure in a negative direction, where the higher the adherence to taking antihypertensive drugs, the lower the diastolic blood pressure. This confirms the findings of Ariyanto, which examined the relationship between compliance and blood pressure.²⁰ These findings support the results of a study conducted by Márquez-Contreras et al., which concluded that adherence to treatment is very important in patient care. This is because it can reduce recurrence/recurrent hypertension and it is very necessary to achieve controlled blood pressure.⁶ Compliance in taking medicine is very important in achieving controlled systolic and diastolic blood pressure.

Almost all of the respondents with hypertension had never deliberately skipped their medication within the past 2 weeks. Compliance with medication is influenced by good family support. Family support is an effort given from the family members both morally and materially in the form of real motivation, advice, information and assistance.²¹ This affirms the research of Fajriyah et al. and Permatasari et al's work, which found that adequate family support was associated with a decrease in mortality.^{11,12}

Conclusion

Family support has a relationship with compliance with the medication where the better the family support,

the better the level of adherence of the patients with hypertension to taking hypertension medication. This will increase; the less the family support, the more that patient's level of non-compliance will increase.

Compliance with taking medication has a relationship with systolic and diastolic blood pressure where the more obedient patients take antihypertensive drugs. Therefore the hypertensive patients will have more controlled systolic and diastolic blood pressure.

Ethical Clearance: This study was ethically approved by the IRB committee of the Faculty of Nursing Universitas Airlangga in 2018.

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