



## Research Article

# Compliance with Medication and Family Support for Hypertension Patients in the Work Area of the Talaga Biru Health Center Gorontalo City

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## ABSTRACT

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Hypertension was one problems in health sector because of its high incidence rate worldwide, and until now still increasing. According to WHO data in 2015, around 1.13 billion people in the worldwide suffer hypertension. It was estimated that 1.56 billion adults in the world will hypertension by 2025. Based on national research data in 2018, Gorontalo Province was 20th position with the number of cases of hypertension. Adherence to taking medication was one of the problems in the treatment of this disease. However, this adherence could overcome through monitoring by members of family regarding treatment, and determining whether to use health services or not. This study aims to determine the relationship between role of family with compliance treatment of patients in the working area of community health centers of Talaga Biru, Gorontalo city. This study used cross sectional research design with purposive sampling technique. Total of 34 respondents with hypertension obtained then dianalysis using Chi Square test. The results of show that the calculated  $X^2$  value of 18.2 and greater than the  $X^2$  table with p value = 0.000 ( $p < 0.05$ ). These findings indicate that role of the family was very influential on the regularity level of treating hypertension patients in the working area of the Talaga Biru Health Center, Gorontalo city. We conclude that regular treatment could improved through the role and duties of the family in controlling patients with hypertension

**Keyword:** Family task, Regularity of getting treatment, Hypertension.

## INTRODUCTION

High blood pressure or hypertension was also called silent

killer, because in most cases, it does not show any symptoms, but which was quite sad even though millions of people suffer from high enough hypertension which tends to put them at risk of heart disease, many in of whom do not control their blood pressure (Kowalski, 2010). In 2015, WHO demonstrated that around 1.13 billion people in the worldwide were diagnosed hypertension. This means that 1 in 3 people in the world were diagnosed with hypertension, only 36.8% of them are taking medication. The number of hypertension sufferers in the world continues to increase every year, it is estimated that by 2025 there will be 1.5 billion people with hypertension. It is also estimated that every year 9.4 million people die from hypertension and complications (Ministry of Health, 2018).

Recently, hypertension is still big challenge in Indonesia, because hypertension was condition that was often found in primary health care. It was health problem with high prevalence, namely 25.8%, according to the 2013 Riskesdas data. The highest was the Bangka Belitung province with 30.9%. Meanwhile, Riskesdas 2018 data for hypertension increased to 34.1%. The highest was in South Kalimantan (44.1%). In Gorontalo Province, the number of hypertension sufferers according to the 2013 Riskesdas was 29.4% with the absolute number of hypertension sufferers 33,542 out of 1,134,498 people of Gorontalo population. Based on the results of the 2018 Riskesdas, the prevalence of hypertension in Gorontalo Province is ranked 20 with the highest prevalence of hypertension based on provinces in Indonesia. According to data from the Gorontalo Province Health Office, hypertension is a non-communicable disease that ranks first and most non-communicable diseases in Gorontalo Province for four consecutive years with 29,391 total cases (Suma, 2018).

Based on data health department, the number of hypertension cases in Gorontalo District in 2015 was 2,749 with details for the old cases as many as 1,812 cases, 937 new cases, and 83 deaths. In the initial data collection at the Telaga Biru Puskesmas, Gorontalo Regency, there were 138 people suffering from hypertension in 2018.

Patients with hypertension can cause visual disturbances, heart problems, stroke, kidney failure (Magfiroh, 2014). Chronic illness is not easy to deal with not only because of the nature of the disease or its treatment, but because it has to be suffered for a long time. To anticipate an increase in health costs, the Health Social Security Administration (BPJS) launched a Chronic Disease Management Program called Prolanis in accordance with Law No. 40 of 2004 concerning the National Social Security System and Law Number 24 of 2011 concerning BPJS (Purnamasari, 2017). Prolanis was program with health service system and proactive approach implemented in an integrated First Level Health Facility (FKTP) with the aim of achieving an optimal quality of life with

cost-effective and efficient health services. By achieving optimal quality of life, it was hoped that disease complications can be prevented (Oktowaty, et al, 2018). To achieve optimal quality of life, it was hoped that hypertension sufferers could regularly participate in prolanis activities every month.

Regular treatment of hypertensive patients was important because hypertension was disease that couldn't cured but must always be controlled or controlled lead complications did not occur which could lead to death (Mangendai et al., 2017). The problem of irregularity was generally found in the treatment of chronic diseases that require long-term treatment such as hypertension. Current antihypertensive drugs have been shown to control blood pressure in hypertensive patients, and also play a major role in reducing the risk of developing cardiovascular complications. However, the use of antihypertensive drugs alone was proven to be insufficient to produce long-term blood pressure control effects if it was not supported in terms of lifestyle (such as antihypertensive exercise, education on special foods for people with hypertension & avoiding smoking), be diligent in consulting with doctors, diligent in checking pressure. blood regularly. All these activities can be obtained when the patient participates in prolanis activities every month. Besides that, the progress of the disease was also monitored by health workers. Chronic disease, especially hypertension, which was experienced by today's society, will have an impact and burden if the treatment was not carried out intensively and sustainably. For this reason, one important aspect of care related to the supervision of the regularity of treatment for hypertension sufferers is family.

The family plays important role in determining how to care for illnrd family member. The success of nursing in the hospital could in vain if it was not continued by the family (Leny R-Jhonson R, 2010). For this reason, one of the efforts to control hypertension was supervision from the family (Magfiroh, 2014). Family plays major role in various aspects of hypertension management including adherence to medication, lifestyle modification, and follow-up visits. Families also have to decide whether to use health services or not (Magfiroh, 2014). In addition, family duties in the health sector include recognizing family health problems, making appropriate action decisions, caring for family members who are sick, and maintaining or cultivating a healthy home atmosphere, and using health service facilities in the community.

During an interview with a prolanist officer at the Telaga Biru Puskesmas, he said that not all prolanis members who suffer from hypertension come to the puskesmas for treatment every month. It is not known the factors that cause these hypertensive sufferers to not regularly

seek treatment, but this is where family duties must play a role in the regularity of patient treatment.

Based on the description of the problem above, the researchers were interested in conducting research on "The Relationship of Family Duties with Regular Treatment of Hypertension Patients in the working area of the Telaga Biru Health Center, Gorontalo District". The purpose of this study was to determine the Relationship between Family Duties and Regular Treatment of Hypertension Patients in the Work Area of the Telaga Biru Health Center, Gorontalo District.

## **MATERIALS AND METHODS**

This type of research was correlative analytic, using a cross-sectional study approach, namely a study to study the dynamics of the correlation / association between independent variables (family duties) and dependent variables (regularity of treatment) at the same time. Cross-sectional research is a type of research that reduces the measurement / observation time of independent and dependent variable data only once at a time. In this type, the independent and dependent variables are assessed stimulant at one time, so there is no follow-up (Nursalam, 2016).

In this study, the independent variable (independent) is family duty and the dependent variable (dependent) is the regularity of treatment for hypertension sufferers. This research was conducted in the working area of Puskesmas Telaga Biru, Gorontalo District. with a research period of 1 month, namely 05 April - 05 May 2019. The population in this study were all families who had hypertension who participated in the prolanis program in the working area of Puskesmas Telaga Biru, Gorontalo Regency, with a total of 138 people.

The sample is the object under study and is considered to represent the entire population (Notoatmodjo, 2012). The sample in this study is part of the total number of families who have hypertension sufferers who follow the prolanis program in the working area of the Telaga Biru Public Health Center, Gorontalo Regency, which meet the inclusion criteria. By using a non-probability sampling technique, namely purposive sampling, the sampling is based on certain considerations made by the researcher himself, based on the characteristics or characteristics of the population that have been previously known. The sample determination made by the researcher is the sample obtained according to the inclusion criteria until it meets the predetermined number of 34 samples. 34 samples were taken from 10 villages in Telaga Biru District using the formula with the following details:

**Table 1.** Distribution of Respondents Based on Samples Per Village in the Work Area of the Telaga Biru Health Center, Gorontalo District

Village	Sample
Dumati	7
Tuladenggi	12
Pantungo	2
Timuato	2
Ulapato A	2
Pentadio Barat	2
Pentadio Timur	2
Tinelo	2
Lupoyo	1
Talumelito	1

Univariate analysis aims to explain or describe the characteristics of each research variable. The form of univariate analysis depends on the type of data. For numeric data, the mean or average, median and standard deviation is used. In general, this analysis only produces a frequency distribution and percentage of each variable (Notoatmodjo, 2012).

Bivariate analysis was carried out on two independent variables and the dependent variable which were thought to be related or correlated (Notoatmodjo, 2012). The statistical formula used in this study is the Chi-Square or kai squared test formula to determine the hypothesis whether there is a relationship between family duties and regular treatment of hypertension sufferers. In processing data, researchers used computerization with the help of SPSS 16.

## RESULTS

### Overview of the Research Location

Telaga Biru sub-district administratively consists of 15 villages. Geographically, Telaga Biru Subdistrict is located between 0.30 North Latitude, 0o South Latitude and 121o East Longitude, 123.3 ° West Longitude, with a land area of 107.40 km<sup>2</sup>, Telaga Biru Subdistrict is mostly a plain area, when viewed from its area, then the village with the largest area was Ulapato B village, 27.34 km<sup>2</sup> and the one with the smallest area was Pantungo village, 1.14 km<sup>2</sup>.

Population policy is directed at developing human resources with independent characteristics to continue quality development and increasing mobility while still providing support for ideal population control, structure, composition and growth and distribution, through

efforts to control births, reduce mortality and improve the quality of family programs. plan.

The total population in 2017 was 28,930 people, (BPS data) The total male population was 14,480 (50.05%) and the female population was 14,450 (49.94%) with a total of 8,437 households. The most densely populated village is Tuladenggi Village with 4,343 inhabitants, while the lowest is Tapaluluo Village with 442 souls. Most of the residents of Telaga Biru Subdistrict work in the agricultural sector.

Puskesmas Values What becomes the vision of Puskesmas Telaga Biru is "The Realization of Gorontalo District, Gemilang Towards Civil Society". Respondents in this study were respondents who participated in the prolanis program, and had a nuclear family. The number of respondents was 34 people who were taken from 10 villages in the working area of the Telag Biru Puskesmas, where each sample per village had been determined by a formula.

### Characteristics of respondents

**Table 2.** Distribution of Respondents by Age of Respondents in the Work Area of the Telaga Biru Health Center, Gorontalo District.

Age	Frequence	Persentage
40-58 year	18	52.9
> 58 Tahun	16	47.1
Total	34	100

Source: Primary data, 2019

Based on the data in the table above, it shows that most of the 34 respondents were in the 40-58 year age group, namely 18 people with a percentage of 52.9%.

**Table 3.** Distribution by Gender of Respondents in the Working Area of the Telaga Biru Health Center, Gorontalo District.

Gender	Frequency	Persentage
Male	6	17.6
Female	28	82.4
	34	100

Source: Primary data, 2019

Based on the data in the table above, it shows that from 34 respondents it is known that most of the respondents are women, amounting to 28 people with a percentage of 82.4%.

**Table 4.** Distribution based on the last education of respondents in the working area of the Telaga Biru Health Center, Gorontalo District.

Education	Frequency	Persentase
Elementary School	6	17.6
JHS	28	82.4
SHS	34	100

Source: Primary data, 2019

\*JHS; Junior High School

\*Senior High School

Based on the data in the table above, it shows that of the 34 respondents, most of them were in the last elementary education group, amounting to 23 people with a percentage of 67.6%.

**Table 5.** Distribution based on occupation of respondents in the working area of Puskesmas Telaga Biru, Gorontalo district

Work	Frequency	Persentase
Government employees	4	11.8
Entrepreneur	2	5.9
Private employees	0	0
Housewife	22	64.700
Farmer	2	5.9
Retired	4	11.8
	<b>34</b>	<b>100</b>

Source: Primary data, 2019

Based on the data in the table above, it shows that out of 34 respondents, it is known that most of the respondents were in the IRT group, amounting to 22 people with a percentage of 64.6%.

### Univariate analysis results

**Table 6.** Respondent Family Duties In the working area of the Telaga Biru Health Center Gorontalo District.

Family Task	Frequency	Persentase
Government employees	23	67.6
Entrepreneur	11	32.4
	<b>34</b>	<b>100</b>

Source: Primary data, 2019

Based on the data in the table above, it shows that from 34 respondents, it is known that most of the family duties are in the good category, namely 23 families with a percentage of 67.6%.



**Table 7.** Regular Treatment for Patients with Hypertension In the working area of the Telaga Biru Health Center Gorontalo District

<b>non-compliance with treatment</b>	<b>Frequency</b>	<b>Persentase</b>
Compliance	18	52.9
Non-Compliance	16	47.1
	<b>34</b>	<b>100</b>

Source: Primary data, 2019

Based on the data in the table above shows that out of 34 respondents, it is known that most of the regularity of treatment is in the good category, amounting to 18 people with a percentage of 52.9%.

### Results of bivariate analysis

Bivariate analysis in this study includes variables of family duties and regularity of treatment using the Chi Square formula, with a significance level of  $\alpha = 0.005$ . Based on the analysis results, the cross tabulation data is obtained as follows:

**Table 8.** Cross Tabulation of Family Duties with Regular Treatment of Hypertension Patients in the Telaga Biru Health Center Work Area Gorontalo District

<b>Family Work</b>	<b>Frequency</b>			<b>Chi Square</b>
	<b>Comliance</b>	<b>Noncomliance</b>	<b>Total</b>	
Good	18	5	23	18.293
Enough	0	11	11	0.000
	<b>28</b>	<b>16</b>	<b>34</b>	

Based on the data in the table above, it is known that respondents who have good family duties with regular treatment are 18 people. The results of the chi square analysis show that the chi square value is 18.293 with a significant level of  $0.000 < 0.05$ , so the hypothesis that there is a relationship between family duties and regular treatment of hypertension sufferers in the working area of the Telaga Biru Health Center, Gorontalo District is acceptable.

## DISCUSSION

### Characteristics of respondents

Most of the respondents were 40-58 years old. This is in accordance with the theory which states that after 45 years of age, the artery walls will experience thickening due to a buildup of collagen in the muscle layer so that the blood vessels will gradually narrow and become stiff, causing high blood pressure (Widharto, 2007 in Raihan, et al. 2014).



The results showed that most of the 34 respondents were female, amounting to 28 people (82.4%). According to Cortas (2008) in Raihan (2014), the prevalence of hypertension in men is the same as in women. However, women are protected from cardiovascular disease before menopause. Women who have not yet experienced menopause are protected by the hormone estrogen which plays a role in increasing HDL levels. High HDL cholesterol levels are a protective factor in preventing the atherosclerosis process. The protective effect of estrogen is thought to explain the presence of immunity in premenopausal women. For this reason, when women stop menstruating (menopause), the hormone estrogen decreases from the blood. This, can damage endothelial cells so that it triggers plaque in blood vessels that causes atherosclerosis to cause high blood pressure.

Respondents who had the most recent level of education were SD education of 23 people (67.6%). The results of this study are consistent with research by Rebecca (2007) in Raihan (2014) that people with tertiary education have a one-fifth less risk than those with low education. This is also in accordance with the theory of Notoadmojo (2007) which states that low education will result in low knowledge.

Most of the respondents work as IRT amounted to 22 people (64.6%). This is in accordance with the research conducted by Ayu (2007) in Raihan (2014) that domestic work is one of the causes of stress, such as a large and heavier burden because not only taking care of husband and children but take care of the household every day. Black and Hawks (2005) stated that stress increases peripheral vascular resistance and stimulates activity of the sympathetic nervous system which results in hypertension. When stress occurs the hormones epinephrine or adrenaline are released. This hormonal activity increases blood pressure at regular intervals. If stress is prolonged, the increase in blood pressure becomes permanent.

**Family duties for families who have family members suffering from hypertension and participate in the prolanis program in the work area of the telaga biru health center, gorontalo district**

Based on research from 34 respondents, it shows that most of the family duties in families with family members suffering from hypertension are in the good category, namely 23 families (67.6%) of all respondents, while 11 families (32.4%) are in the unfavorable category .

According to the results of this study, most of the families knew about family duties in the health sector but the implementation was still not optimal because there were still points in family duties that were not carried out. As explained in the stages of family health duties, families need to recognize hypertension problems starting from the signs and symptoms

when hypertension sufferers begin to relapse, factors that cause hypertension recurrence, decide appropriate health measures, care for sick family members, modify a healthy environment, and use health care facilities. But the results of the study showed that families who were in the poor category of family duties mostly did not carry out the first family task, namely recognizing health problems and the third family task, namely caring for sick family members. And for all respondents, the most significant for family tasks that were not carried out was the first family task, namely recognizing health problems. For families whose family duties are in the good category they on average carry out 5 family tasks but the most prominent ones that are carried out are in the second family task, namely deciding on the right health action, the 3rd family task namely caring for sick family members, and family duties the fourth is modifying the environment. For all respondents, the most prominent family task is carried out, namely the third family task, namely caring for family members who are sick. Based on interviews, some of their respondents said they did not know the family's duties in the health sector.

One of the most important aspects of care is family. The family plays a role in determining the type of nursing care needed by a sick family member. The family has a very important role in developing, recognizing, and determining health problems in the family in anticipation of maintaining health in the family. According to Campbell (2000) in Magfiroh (2014) research in the field of family health clearly shows that the family has a considerable influence on the physical health of family members. Family duties, if implemented optimally, can help reduce the irregularity in treating hypertension sufferers. In this case the family can also monitor the patient's blood pressure.

The results of this study are supported by research conducted by Ahsan, Kumboyono, Faizah (2015) concerning the Relationship of Family Duties in Health and the Independence of the Elderly in Fulfilling Their Daily Activities using the Spearman Rank Test with the results of the research  $p\text{-value } 0.000 < 0.05$  means there is a very strong relationship between the two variables. With the conclusion that the relationship between the two variables is unidirectional where the better the implementation of family duties in the health sector, the higher the independence of the elderly in fulfilling ADL.

Based on the results of this study, the assumption of the researchers is that family duties are influenced by knowledge and care or attention from the family. Family duties can be fulfilled if the family knows what family duties must be done and there is a sense of care from the family for other family members, especially family members who are sick.

### **Regular treatment of hypertension patients in the tealag biru community health center, Gorontalo city**

Based on research conducted from 34 respondents, it was shown that the regularity of treatment in the regular category was 18 people (52.9%) and 16 people who did not regularly seek treatment (47.15). For respondents who regularly seek treatment, it is in line with good family duties in the health sector, meaning that the family plays a role in caring for sick family members, and for respondents who do not regularly seek treatment because they do not regularly attend prolanis at the Puskesmas which are also supported by less family duties both in the health sector, which means that the family does not really care for family members who are sick due to family ignorance, and for respondents who do not regularly seek treatment but their family duties are good according to the interview due to the respondent's outside activities. From this explanation it can be concluded that one of the factors of irregular treatment could be caused by the patient's lack of knowledge about the disease, this was supported by more respondents who did not regularly seek treatment at the elementary education level as many as 9 people and other factors could be caused by less family. Knowing the 1st family duty, namely knowing health problems.

However, the overall results of this study indicate that the majority of hypertension sufferers regularly seek treatment or regularly follow the prolanis program at Telaga Biru Puskesmas, Gorontalo Regency every month and regularly take medication.

Regularity of treatment, namely whether or not these drugs are taken, is important because irregularity in treatment causes more serious problems. Because all management that has been done well will be in vain if it is not accompanied by a good evaluation system. Therefore, family duties and regular treatment are very important. (Taufan 2008 in Septiana 2015).

The results of this study are in line with the results of research conducted by Mengendai, Rompas, Hamel (2017) concerning the factors related to treatment compliance in hypertensive patients at the Ranotana Weru Community Health Center, using research variables of knowledge, motivation, and family support. Using the Chi Square statistical test, the results obtained for the variable family support  $p = 0.001 < \alpha = 0.05$ , which means that there is a very significant relationship between treatment compliance and family support.

The assumption of researchers is that the element that plays an important role in regular treatment is family. If the patient is diligent in seeking treatment but there is no attention from the family, an assumption will arise from the sufferer that the family does not care and there will be a

feeling of hopelessness from the sufferer, which causes the sufferer to be lazy to seek treatment. For this reason, the family plays an important role in the health of family members. Another element that plays a role is the level of knowledge of the sufferer about the disease being suffered. According to Notoatmojo (2012) in Septiana (2015) knowledge or cognitive is a very important domain for the formation of an action.

**The relationship between family duties and regular treatment of hypertension patients in the work area of the telaga biru health center, Gorontalo city**

The results of the calculation of the Chi square statistical test carried out with the SPSS 16 program obtained the  $\chi^2$  value of 18.293 with a significance of 0.000. Therefore, it is significant  $<0.05$ , the result is the same as manual Chi Square where the calculated  $\chi^2$  value is 18.2 greater than the  $\chi^2$  table. then  $H_0$  is rejected and  $H_a$  is accepted. Thus, it can be concluded that there is a relationship between family duties and regular treatment of hypertension sufferers in the working area of the Telaga Biru Health Center, Gorontalo city. This study illustrates that families who have good family duties can influence the regularity of treatment for hypertension sufferers.

The family must carry out five family duties in the health sector, the family can help how to improve health and prevent irregularity in patient treatment, the family is very much needed to pay attention to the health of people with hypertension because one of the factors controlling hypertension is supervision from the family.

This research is in line with research conducted by Siti Magfiroh (2014) regarding the Relationship between Family Health Tasks and the Incidence of Recurrent Hypertension in the Elderly in Padukuhan Karang Tengah, Nogotirto, Gamping, Sleman, Yogyakarta using the Chi Square statistical test with a significant value of 0.003  $<0.05$ . so that there is a relationship between family health duties and the incidence of recurrent hypertension in the elderly.

According to researchers, regularity of treatment is influenced by the role and duties of the family. Family is a support system for people with hypertension in maintaining their health and implementing adequate health tasks in the form of recognizing health problems, making the right decisions to overcome health problems, caring for family members who are sick, maintaining a comfortable home atmosphere, and using health service facilities with proven to affect the behavior of sufferers in regular treatment. Through family duties, families can help family members suffering from hypertension to improve the quality of life for sufferers.

It can be concluded that the implementation of family duties properly and appropriately will have a good effect on hypertension sufferers in managing the treatment program they are running. This is in line with Friedman's 2010 statement (in Magfiroh 2014) that the health status of family members and family members affects each other.

## CONCLUSIONS

From the findings and discussion described in chapter IV regarding the relationship between family duties and regular treatment of hypertension sufferers in the working area of the Telaga Biru Community Health Center, Gorontalo District, this research can be concluded as follows:

- a) From the table of the distribution of respondents based on family duties in the working area of the Telaga Biru Health Center, Gorontalo District, it shows that most of the family duties are in the good category, namely 23 families with a percentage of 67.6% and family duties that are in the poor category, namely 11 with a percentage of 32, 4%.
- b) From the table of the distribution of respondents based on the regularity of treatment for hypertension sufferers in the working area of the Telaga Biru Health Center, Gorontalo Regency, it shows that respondents who regularly seek treatment at the Puskesmas are 18 people with a percentage of 52.9% and respondents who do not regularly seek treatment at the Puskesmas are 16 people with a percentage of 47.1%.

The results of data analysis using the Chi Square statistical test have obtained a calculated  $\chi^2$  value of 18.2 with a value of  $p = 0.000 (<0.05)$  using df 1, this means that  $H_0$  is rejected and accepted. From these results it can be seen that there is a significant relationship between family duties and regular treatment of hypertension sufferers in the working area of the Telaga Biru Health Center, Gorontalo District.

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