

## Conference Paper

# Factors Associated with Medication Adherence of Patients with Hypertension in Segeri's HealthCenter

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## Abstract

The prevalence of hypertension has become a major concern around the world and patients' medication adherence for hypertension is a key to prevent complications. The study aimed to identify factors associated with medication adherence among hypertension patients in Segeri Health Center in Pangkep in 2015. The type of this research was observational analytic with cross-sectional design. All 238 hypertensive patients were included, and 134 people were selected by systematic random sampling. Data were analyzed using a chi-square test. The results showed that, based on characteristics, most of the respondents were aged 60-74 years (41.8%), 69.4% were female, 53.7% left education at the end of primary school, 40.3% were working as a housewife, 96.3% were married, and 80.6% were people with a low income. The prevalence of patients with adherence and non-adherence were 41.8% and 58.2%, respectively. The results of the chi-square test showed that there were correlations between the level of knowledge ( $p=0.019$ ), family support ( $p=0.005$ ) and the support of healthcare workers ( $p=0.025$ ) with medication adherence. The income factor was found not to be associated with adherence ( $p>0.05$ ). It was concluded that the medication adherence of patients with hypertension was influenced by the level of knowledge, family support and the support of health careworkers.

**Keywords:** Adherence; drug; hypertension.

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## 1. INTRODUCTION

Hypertension is called the silent killer because it has become one of degenerative diseases which contribute to the mortality and morbidity rate as a consequence of complications [14]. The World Health Organization (WHO) (2013) stated that hypertension is one of the prominent factors that contribute to heart disease and stroke, which constitute the number one cause of mortality and disability in the world. The

treatment of hypertension is a life-long period. The aim of the treatment is to keep the blood pressure stable, and thus the patient can be free from complication risks [4]. WHO (2003) also estimated that 50-70% of patients with hypertension did not adhere to their doctors' advice to take their anti-hypertensive. In Indonesia, the Research of Health Foundation (Riskesdas) showed that in 2013 only 9.5% of patients with hypertension took their medicine.

The results of Riset Kesehatan Dasar in 2013 demonstrated that South Sulawesi Province was in eighth position with a hypertension prevalence rate of 28.1% [8]. On the other hand, the Department of Health in Pangkajene and Kepulauan (Pangkep) declared that the hypertension prevalence rate in 2013 was 9.29%, and the highest distribution was found in Segeri's Health Center region with 21.43%.

Medication adherence is affected by several factors. Previous studies found that income influenced the medication adherence of patients with hypertension [6, 9]. Another study identified that a cognitive factor was also affecting medication adherence [2]. Moreover, several studies have addressed that there was a positive association between external factors such as the support of family and health care workers and the medication adherence of patients with hypertension [2, 3].

Identification of the factors that are associated with medication adherence is necessary for the input of decision making about intervention programs which are aimed to achieve the restraint of hypertension. The objective of this research is to identify the factors associated with the medication adherence of patients with hypertension in Segeri's Health Center region in Pangkep in 2015.

## 2. METHODS

The nature of this research was observational analytic with a cross-sectional design. The population included all hypertensive patients recorded in Segeri's Health Center registration book from January to October 2014, as many as 283 people. Samples were selected by systematic random sampling, as many as 134 people. Primary data was collected by interview using Morisky Medication Adherence Scale (MMAS-8 point) questionnaire for measuring adherence. Data were analyzed using univariate and bivariate analysis with a chi-square test.

### 3. RESULTS

The total number of respondents in this study was 134 people with an average age of 57.6 years. The majority of respondents were about 60-74 years old (41.8%), 93 were female (69.4%), 73 completed elementary school (53.7%), 54 worked as a housewife (40.3%), 129 were married (96.2%), and 108 people (80.6%) had a low income (Table 1).

The prevalence of respondents who disobeyed was higher (58.2%) than the respondents who obeyed (41.8%) (see Table 2). Table 3 shows the correlations between the variables and medication adherence. Of the four variables in this study, level of knowledge ( $p=0.019$ ), family support ( $p=0.005$ ) and support of health care workers ( $p=0.025$ ) were found to be associated with medication adherence. On the other hand, income factors had no significant correlation with medication adherence ( $p=0.615$ ). This study showed that respondents who are knowledgeable about hypertension tend to obey more (50%) than respondents with a lack of knowledge (29.6%). Respondents who are well-supported by their family were more likely to adhere to their medication (48.8%) than respondents who did not receive support (29.6%). Moreover, respondents who felt supported enough from health care workers were more likely to obey (47.5%) than those who felt did not receive enough support (25.7%). However, if income factors were compared to adherence or obedience, there was little difference between respondents with a low income (40.7%) and respondents with a high income (46.2%).

### 4. DISCUSSION

The results of this study showed that the majority of respondents did not adhere to their medication (anti-hypertensive treatment); the same phenomenon was identified in several studies by Morgado et al. and Saleem et al. The outcome of bivariate analysis clarified that from three of the four variables showed significant correlations with medication adherence.

Economic status or income factors can be related to medication adherence, because income can affect the patient's ability to buy the medicine. However, bivariate analysis showed that the income factor was not associated with medication adherence. That result was also found in another study by Jaya (2009) and Lee et al (2013). However, in contrast, a study conducted by Saepudin et al. found that patients with a low income tended to disobey because they were more focused on their economic problems. In

TABLE 1: Distribution of Respondents by Characteristics in Segeri's Health Center Pangkep.

Characteristic	Total n	Percentage %
<b>Age</b>		
18-44 years	20	14.9
45-59 years	48	35.8
60-74 years	56	41.8
75-90 years	10	7.5
<b>Sex</b>		
Female	93	69.4
Male	41	30.6
<b>Education Level</b>		
No formal education	9	6.7
Uncompleted Elementary School	8	6.0
Elementary School	72	53.7
Junior High School	15	11.2
Senior High School	10	7.5
College	20	14.9
<b>Occupation</b>		
Unemployment	39	29.1
Housewife	54	40.3
Workers / Farmers / Fishermen	5	3.7
Entrepreneur/ Traders	11	8.2
Civil Servant	9	6.7
Others	16	11.9
<b>Marital Status</b>		
Unmarried	3	2.2
Married	129	96.3
Divorced	2	1.5
<b>Income</b>		
< Rp. 1512.000,-	108	80.6
≥ Rp. 1512.000,-	26	19.4

Source: Primary Data, 2015

this study, although half of the respondents were unemployed, they still received money from their child for their daily life. Moreover, respondents confirmed that they did not have to spend any money to receive check up or control in the Primary Health Center, as well as anti-hypertensive medicine. As such, the income factor in this matter has no significant correlation with medication adherence.

Another factor that had the potential to affect medication adherence was knowledge. The results of this study showed a significant correlation between the patient's

TABLE 2: Distribution of Respondents by Variables in Segeri’s Health Center Pangkep.

Variables	Total	
	n	Percentage %
<b>Medication Adherence</b>		
Disobey	78	58.2
Obey	56	41.8
<b>Income</b>		
Low	108	80.6
High	26	19.4
<b>Level of Knowledge</b>		
Low	54	40.3
High	80	59.7
<b>Family Support</b>		
Less	52	38.8
Enough	82	61.2
<b>Health Care Workers Support</b>		
Less	35	26.1
Enough	99	73.9

Source: Primary Data, 2015

TABLE 3: Bivariate Analysis of Factors Associated with Medication Adherence of Patients with Hypertension in Segeri’s Health Center Pangkep.

Factors	Medication Adherence				Total		p value
	Disobey		Obey		n	%	
	n	%	n	%			
<b>Income</b>							
Low	64	59.3	44	40.7	108	100	0.615
High	14	53.8	12	46.2	26	100	
<b>Level of Knowledge</b>							
Low	38	70.4	16	29.6	54	100	0.019
High	40	50.0	40	50.0	80	100	
<b>Family Support</b>							
Less	38	73.1	14	26.9	52	100	0.005
Enough	40	48.8	42	51.2	82	100	
<b>Health Care Workers Support</b>							
Less	26	74.3	9	25.7	35	100	0.025
Enough	52	52.5	47	47.5	99	100	

Source: Primary Data, 2015

level of knowledge and their medication adherence. This result was consistent with previous studies by Ambaw et al. and Mesmer et al. Respondents who knew and understood about hypertension and the treatment proved more likely to take their

medicine than respondents who lacked knowledge about their disease. Based on observations, the persistence of respondents who lacked knowledge was affected by their educational background, which was only elementary school. Moreover, most of them were old so it may be assumed that it is hard for them to understand and remember the anti-hypertensive treatment rules. From questionnaire and interviews, most respondents said that they thought the medicine was only to be taken when they felt sick and they also did not know that hypertension can lead to heart disease and strokes.

In terms of external factors, in this study, family support was found to be associated with medication adherence. Another study by Dalyoko et al. and Mesmer et al. reported a similar finding. The respondents mentioned that the best support from the family exists in the form of willingness to hear their complaints, advice to get treatment, and also reminding them about the rules or schedule for taking the medication. Observation results showed that most respondents who received sufficient family support were respondents who still lived with their extended family. However, some of those who did not live with extended family or only lived with their partner (husband/wife) also received support from their children by phone or occasional visits.

Another form of support comes from health care workers. It has been an important role for them to provide advice and information about hypertension, and the rules and benefits of medication, and also for them to encourage patients to control their blood pressure. From the statistical analysis, health care workers' support has a significant correlation with medication adherence. This result was in line with the studies by Annisa and Zyoud et al (2013). Respondents claimed that a good service encourages them to be more diligent in controlling their blood pressure and to obtain anti-hypertensive medicine. Yet, several respondents said that they felt uncomfortable and were not satisfied by the services due to long queues and that they experienced short time consultations with doctors. Those factors meant that respondents had less intention to visit the Primary Health Center, even if they ran out of medicine and this caused disobedience.

## 5. CONCLUSION

In conclusion, more than half of respondents were found not to adhere to or to disobey their anti-hypertensive treatment. This study also found that medication adherence was associated with the patient's level of knowledge, their family support and the support of health care-workers factors. According to this result, in order to improve the

medication adherence of patients with hypertension, a routine education, promotion and counseling about hypertension and the treatment for the society, the patient and also the family could be very useful. For future research, it is recommended that researchers should explore additional factors, such as attitude or perception, and use different methodologies, such as a qualitative method, and should also attempt to measure the risk of each associated variable.

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