



THE RELATIONSHIP BETWEEN THE ADHERENCE LEVEL OF THE USE OF SCIENTIFIC HERBAL MEDICINE AND ITS SUCCESS IN HYPERTENSION THERAPY

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ABSTRACT

Hypertension has the most significant prevalence among non-communicable diseases (NCDs) in Indonesia. The prevalence of hypertension in 2018 of 34.11% rose 8.31% from the prevalence of hypertension in 2013 of 25.8%. Data from the Ministry of Health of the Republic of Indonesia indicates that 32.3% of hypertension patients exhibit non-compliance or do not regularly adhere to medication regimens, thereby increasing their mortality risk. The objective of this study was to establish the magnitude of the impact caused by the compliance level to the use of antihypertensive scientific herbal medicines on the effectiveness of hypertensive patients' therapy in UPF. Yankestrad Rs Dr. Sardjito Tawangmangu. This study descriptively utilized a quantitative cross-sectional method using the MARS-5 (Medication Adherence Report Scale) questionnaire to measure adherence level. The sample of this study consisted of 150 purposively hypertensive respondents out of the total sample size of the 150 who conducted the research in October 2023. Data analysis includes univariate and bivariate analysis with a chi-square test. The research findings provide a reliable understanding of compliance levels. A very low compliance level was recorded at 32 or 21.3%, a moderate compliance level was recorded at 53 or 35.3% and a high compliance level was recorded at 65 or 43.4%. The chi-square supported the association thus out of 113 respondents the p-value at 0.001 and where the relationship can be a very healthy therapy at UPF Yankestrad Dr. Sardjito Tawangmangu Hospital.

Keywords: adherence; hypertension; therapeutic success

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INTRODUCTION

Hypertension is a commonly found and experienced non-communicable disease (NCD) in Indonesia and even in the world that is considered a major contributor to mortality cases globally (Lalu Muhammad Sadam Husen et al., 2022). The data from the World Health Organization (WHO) shows the prevalence of people with hypertension who have been diagnosed in 32 countries, namely men 36.7% and women 50.8%, people with hypertension who are on treatment for men 19.1% and women 33.4%, and whose hypertension is controlled men 5.5% and women 11.7% (WHO, 2015) (Ministry of Health RI, 2023). The prevalence of hypertension in Indonesia obtained through a doctor's diagnosis in the population aged 18 years and over is 8.4%. The Central Java health profile (2018), states that the results of the recapitulation of data on new cases of non-communicable diseases (NCDs), the total number of NCD cases reported in 2018 was 2,412,297 cases (Risikesdas, 2018). Based on the proportion of history of taking medication and reasons for not taking medication in the hypertensive population, based on doctor's diagnosis or taking medication in 2018, 54.4% routinely took medication, 32.3% did not routinely take medication and 13.3% did not take antihypertensive medication (Risikesdas, 2023).

Adherence to medicine use plays a role in long-term hypertension treatment, a high level of treatment adherence is associated with reduced mortality and decreased likelihood of hospitalization. As a result, if someone has an increase in blood pressure for a long time and is not known, it can cause complications in other organs such as the kidneys, which can cause kidney failure, the heart can trigger coronary heart disease and the brain can cause stroke (Zakiah, 2021).

The program known as "saintifikasi jamu" is a breakthrough to elevate Jamu as herbal medicine into a scientifically proven product and is expected to be used in healthcare facilities (Badan Penelitian dan Pengembangan Kesehatan, 2016) (Afrioza and Mardianti, 2021). The product of a collection of herbal ingredients obtained from clinical studies conducted by the herbal research house is known as scientific herbal medicine, meaning that empirical herbal medicine that has been scientifically certified, doctors or health workers can utilize scientific herbal medicine in primary health care facilities (Ministry of Health, 2018) (Ahmad et al., 2021). Measure compliance with the use of antihypertensive scientific herbal medicine using various questionnaires that can give access to assess the level of patient adherence, one of which is the MARS-5 questionnaire. The Indonesian version of the MARS-5 questionnaire, tested for validity and reliability, shows valid and reliable results (Alfin & Putra, 2017). The aim of this study was to determine the relationship between the level of compliance with the use of antihypertensive scientific herbal medicine and the success of therapy among hypertensive respondents at UPF Yankestrad Rs Dr Sardjito Hortus Medicus Clinic Tawangmangu.

METHOD

This study is a quantitative descriptive study to determine the level of compliance of hypertensive respondents at UPF Yankestrad Dr. Sardjito Tawangmangu Hospital regarding the success of therapy. Sampling in this study was purposive sampling based on inclusion criteria in October 2023. The sample size calculated by the Slovin formula was 110 respondents. The inclusion criteria for this study were individuals with an age of more than 18 years old who received antihypertensive scientific herbal medicine therapy with or without comorbidities, had undergone hypertension therapy for at least 4 months, could communicate well, and could read and write. Exclusion criteria were incomplete questionnaires. The data collection instrument used was the MARS 5 questionnaire which consisted of 5 statements about adherence level with the use of scientific herbal ingredients. MARS-5 is available in an Indonesian language version and has been validated with a Cronbach Alpha value of 0.80315 by Alfian and Putra (2017). The data obtained were then processed using SPSS 21 (Statistical Product and Service Solutions 21).

RESULT

According to Table 1, there was a sharp increase in women with hypertension. Menopause is associated with a two-fold increase in the risk of hypertension, with a prevalence of 75% in postmenopausal women. When menopause occurs, there is a decrease in estrogen levels (Ika and Dian, 2017). The hormone estrogen has a vascular protective effect on women who are still experiencing premenopause (Abramson et al., 2018). Respondents with a high school education level were dominant in this study. Individual knowledge affects awareness of hypertension prevention behavior as the higher the individual's knowledge about hypertension, such as the causes of hypertension, trigger factors, signs and symptoms, and standard or abnormal blood pressure. The individual will tend to avoid things that can trigger hypertension, such as smoking behavior, drinking coffee, and obesity (Mannan, 2013). The majority of patients with hypertension lasted >1 year with comorbidities and

without comorbidities. Diabetes mellitus is one of the comorbidities that many suffer from, according to the results of all respondents.

Table 1.

Respondent characteristics (n=150)				
Category	Respondent characteristics	f	%	
Age	31-40	9	6	
	41-50	41	27,3	
	51-60	44	29,3	
	>60	56	37,3	
Gender	Men	65	43,3	
	Women	85	56,7	
Education Level	S	5	3	
	SM	27	18	
	P	75	50	
	SM	43	29	
	A Higher Education			
Duration of Suffering	<1 Year	67	44,6	
	≥1 Year	83	55,4	
Comorbidities	With Comorbidities	51	34	
	Without Comorbidities	99	66	

Table 2.

Respondents' Compliance Level (n=150)		
Compliance Level	f	%
Low (Score 1-5)	32	21,3
Medium (Score 6-24)	53	35,5
High (Score 25)	65	43,4

Table 2, compliance in hypertensive respondents at UPF Yankestrad Dr. Sardjito Hospital Hortus Clinic Medicus Tawangmangu is in the high compliance category. The low occurrence was caused by several factors, including respondents being disobedient in forgetting to take their medicine and the boredom or saturation experienced by respondents during hypertension treatment. Measurement of the level of compliance is essential to achieve the effectiveness and efficiency of treatment and monitor the success of hypertension therapy (Dewi, *et al.*, 2015).

Table 3.

Respondents' Therapy Success Rate (n=150)		
Therapy Success	f	%
Successful	43	28,6
Unsuccessful	107	71,4

Table 3, the value of the success of patient therapy is low, this can occur due to several factors including patients forgetting to take medicine regularly, boredom and boredom that make respondents stop taking medicine temporarily, besides that less, and more doses consumed by respondents because patients forget the dose that should be consumed according to doctor's instructions. The success of this therapy is strongly influenced by the patient's drug compliance, motivation, and support from the family (Agustina, 2014). The success of therapy can also be improved by adjusting the patient's diet and diet, diligently monitoring blood pressure at least once a month, reducing salt consumption, and diligently exercising (Nurianjani, 2019).

Table 4.

Factors Affecting Adherence to the Use of Scientific Herbal Medicine for

Compliance Level	SS	S	K		TD
			D	R	
I forgot to take my medicine	41	9	8	19	73
I changed the dosage of my medication	13	12	27	12	98
I stopped taking medication for a while	35	10	5	23	65
I decided to take a higher dose of medicine	29	11	10	1	99
I take medicine less than the actual instructions	22	9	12	7	100

* Remarks: SS (Often), S (Always), KD (Sometimes), JR (Rarely), TD (Never)

Table 4, compliance with the use of antihypertensive scientific herbal medicine in patients shows several factors that can affect the blood pressure of respondents who are the highest non-compliant in terms of taking antihypertensive drugs, because respondents forget to take their medicine as many as 41 respondents (27.3%) The second highest factor is that respondents temporarily stop taking treatment as many as 35 respondents (23.3%). The third highest factor was that respondents took a dose that was more than the proper dose as many as 29 respondents (19.3%). The fourth highest factor was that respondents took less medicine as many as 22 respondents (14.6%). The fifth highest factor was that the respondent changed the dose of medication as many as 13 respondents (8.6%) in this case there should be family members who always remind respondents of the schedule for taking their medicine and also remind the dose that must be consumed according to instructions so that the expected therapeutic targets can be achieved.

Table 5.
Chi-Square Test Results (n=150)

Adherence Level	Therapy Success				P Value
	Successful		Unsuccessful		
	f	%	f	%	
Low	13	8,6%	19		0,001
Medium	22	14,6%	31		
High	8	5,3%	57		
Total	43	28,6%	107		

Table 5 shows a significant relationship between adherence to medication and the success of therapy in hypertensive patients based on a statistical analysis of the Chi-Square test, which shows the results of $Asymp.sig\ 0.001 < sig\ 0.05$.

DISCUSSION

Based on Table 2, the level of compliance in hypertensive respondents at UPF Yankestrad Dr. Sardjito Hospital Hortus Medicus Clinic Tawangmangu is in the high compliance category. This result happened because the majority of respondents had hypertension disease for more than 1 year, with a percentage of (55.4%) where the longer the respondent suffered from hypertension, the greater the level of compliance. Respondents are accustomed to taking antihypertensive drugs and make it a daily necessity. Therapy will not reach an optimal level without the awareness of the patient to adhere to their treatment therapy (Juariyanti, 2016). If the patient is not compliant, it not only causes therapy failure but can also cause complications that can be detrimental to the patient (Dewi et al., 2015). The results of the description of the success of hypertension patient therapy are still in the low group. It can occur due to several factors, including patients forgetting to take medicine regularly, boredom that makes respondents stop taking medicine temporarily, and fewer and more doses consumed by respondents because patients forget the dose that should be consumed according to doctor's instructions (Kishore et al., 2016). Comorbidities owned by respondents are also a factor in the unsuccessful therapy carried out by respondents. Comorbidities can reduce a

person's quality of life due to weakness and a high risk of severity, causing a reduced ability to carry out daily activities and low well-being (Chantakeeree et al, 2022). Adherence to taking medication in hypertensive patients is a determining factor in the success of therapy. In addition to adherence to taking medication, support from family and health workers is also needed to assist patients in carrying out treatment and provide education about the importance of undergoing treatment regularly and obediently (Nurianjani, 2019).

As for the factors that influence Compliance with the Use of Scientific Herbs for Hypertensive Patients, there is the highest assessment of respondents who are not compliant in taking antihypertensive drugs, namely 41 respondents. This happened because the respondents forgot to take their medicine (27.3%) which was obtained from the results of the approach by interviewing the respondents, the respondents began to feel bored and bored in undergoing treatment. The second highest factor was that the respondent temporarily stopped taking the medication as many as 35 respondents (23.3%) the reason why the patient temporarily stopped taking the medication was because the respondent felt that the blood pressure had dropped but when it returned to high the respondent just started taking the medicine again. The third highest factor was that respondents took more than the proper dose as many as 29 respondents (19.3%), which was obtained from the results of interviews conducted with respondents, revealing that sometimes the reason for respondents taking more medicine would lower their blood pressure faster. The fourth highest factor is that respondents take less medicine as many as 22 respondents (14.6%) this happens because sometimes respondents forget the dose that must be consumed. The fifth highest factor is that respondents change the dose of medication as many as 13 respondents (8.6%) in this case there should be a family member who always reminds the respondent to take the medicine respondents to their medication schedule and also remind them of the dosage that must be consumed according to instructions so that the expected therapeutic targets can be achieved.

The Chi-Square test was employed on the data obtained from the respondents to ascertain a statistically significant association between the adherence of hypertension patients to their medication and the efficacy of their treatment. The outcome $\text{Asymp.sig } 0.001$ yielded a significance level of 0.05. Research by Sartik et al. (2017) found that there is a positive correlation between the degree of respondent compliance and the success rate of therapy among hypertensive respondents undergoing treatment. Notwithstanding the respondent's commendable adherence, numerous elements impeded the efficacy of the treatment in this particular instance. These considerations encompassed the respondent's comorbidities, which impeded the expected length of blood pressure decrease and affected the effectiveness of the treatment (Priyono, 2018). Another contributing element is the findings from interviews carried out by researchers with participants, which indicate that certain respondents exclusively get medication treatment without engaging in non-pharmacological therapy (Katadi, 2019). Following Nurianjani (2019). The efficacy of treatment in hypertension patients is attributed not only to regular drug intake but also to non-pharmacological therapy parameters pursued by patients. Key determinants of treatment include abstaining from smoking, decreasing salt or sodium consumption, limiting alcohol intake, participating in physical exercise, ensuring sufficient relaxation, and consuming nourishing foods (Yulianto, 2016). While hypertensive disease is not curable, individuals can effectively control their blood pressure by lifestyle modifications and strict adherence to prescribed medication regimens. This strategy helps to sustain normal blood pressure levels and avoid harm to other organs (Ministry of Health, 2023; Wahyudi et al., 2017).

CONCLUSION

The level of compliance with the use of scientific herbal ingredients in hypertensive patients at UPF Yankestrad Dr. Sardjito Tawangmangu Hospital was 43.4%, which fell into the category of high compliance, 35.3% fell into the category of moderate compliance, and 21.3% fell into the category of low compliance—from the results of the chi-square test obtained a p-value of 0.001. There is a significant relationship between the compliance level and therapy success in hypertensive respondents.

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