

Adherence Level to Antihypertensive Medication Among Internal Medicine Outpatients at Anna Medika General Hospital Madura

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ABSTRACT

Hypertension is one of the chronic diseases known as a “silent killer” because it often presents without symptoms but can lead to serious complications such as stroke, kidney failure, and even death. The main challenge in hypertension treatment is patient non-adherence to regularly taking medication as prescribed, which can reduce treatment effectiveness and increase the risk of complications. A high level of adherence is essential to achieve optimal therapeutic outcomes and prevent harmful long-term effects. This study aims to determine the level of adherence to antihypertensive medication among patients at the internal medicine outpatient clinic of Anna Medika General Hospital Madura. The research used a descriptive quantitative method with a survey approach, employing the 8-item Morisky Medication Adherence Scale (MMAS-8) as the data collection instrument. The questionnaire was distributed to 96 respondents who met the inclusion criteria. Data were analyzed using the Guttman scale, and statistical processing was performed using SPSS version 16.0. The results showed that all respondents fell into the adherent category, with an average adherence rate of 94%. This indicates that most patients are aware of the importance of taking medication regularly, even while traveling or feeling well. The study concludes that the level of adherence to antihypertensive medication at Anna Medika General Hospital is high, serving as a positive indicator for the long-term effectiveness of therapy.

Keywords : adherence, hypertension, MMAS-8.

Introduction

Hypertension is a major chronic health condition commonly referred to as a “silent killer” due to its asymptomatic nature and its potential to cause severe

complications such as stroke, kidney failure, and coronary heart disease (Pradono et al., 2020). In Indonesia, hypertension remains a significant public health concern, not only because of its prevalence but also due to poor medication adherence among patients (Kemenkes, 2023). Studies have shown that inadequate knowledge and limited awareness among patients are major factors contributing to non-adherence (Ivana Cahyadi et al., 2024).

Medication adherence plays a critical role in the successful management of hypertension. Low adherence levels are directly associated with increased morbidity, mortality, and healthcare costs (Tumundo et al., 2021). Adherence itself is influenced by various factors including age, educational background, income, family support, and the quality of healthcare services (Prihatin et al., 2022 Oktaviani et al., 2020) . Moreover, many patients fail to take their medication regularly due to forgetfulness, perceived recovery, or adverse effects such as nausea or palpitations (Aini Lailiyah, 2024).

One widely accepted method for measuring medication adherence is the Morisky Medication Adherence Scale with 8 items (MMAS-8), which provides a simple yet effective approach to identifying non-compliant behaviors (Sugiyono, 2019). In light of these challenges, Anna Medika General Hospital in Madura has seen a high number of hypertensive patients, but until now, no specific data has been available to assess medication adherence among them.

This study aims to evaluate the level of adherence to antihypertensive medication among patients attending the internal medicine outpatient clinic at Anna Medika General Hospital Madura. The results are expected to provide a foundation for developing more targeted interventions to improve patient adherence and support the long-term effectiveness of hypertension management.

Methodology

This study employed a quantitative approach using a descriptive method. The aim of this approach was to describe the level of adherence to antihypertensive medication among patients diagnosed with chronic hypertension who were receiving treatment at the internal medicine outpatient clinic of Anna Medika General Hospital, Madura.

Data were collected using the Morisky Medication Adherence Scale 8-item (MMAS-8) questionnaire, a standardized instrument widely used in various national studies (Tumundo et al., 2021 Aini Lailiyah, 2024) to assess medication adherence. The questionnaire consists of eight questions reflecting patient adherence behavior and was analyzed using the Guttman scale, where a "Yes" answer is scored as 0 and a "No" answer is scored as 1. The selection of the MMAS-8 method in this study is based on its practicality, validity, reliability, speed, and ease of use for patients with diverse educational backgrounds. Moreover, this method is specific and widely recommended in research related to antihypertensive medication adherence.

The study population comprised hypertensive patients at Anna Medika General Hospital. The inclusion criteria were: aged 25–60 years, literate, able to

communicate effectively, and willing to complete the questionnaire. The sample size was determined using Cochran's formula for an infinite population, resulting in a total of 96 respondents.

A non-probability sampling technique with a purposive sampling approach was used, intentionally selecting patients who met the research criteria. Data processing included editing, scoring, and tabulating the questionnaire responses, followed by analysis using SPSS version 16.0. The results were presented in the form of frequency and percentage distributions. Based on the MMAS-8 scoring system, adherence levels were categorized into two groups: "adherent" and "non-adherent."

Result and Discussion

The findings of this study can be seen from the demographic data, which include age, gender, and education. The following presents the demographic characteristics related to adherence to antihypertensive medication among patients at the internal medicine clinic of Anna Medika General Hospital Madura.

Table 1. Demographic Data of Hypertensive Patients

Characteristic	Categori	Frequency (n)	Total
Age	25-45 year	40	96
	46-60 year	56	
Gender	Male	41	96
	Female	55	
Education	Junior high school	6	96
	Senior high school/vocational	66	
	Diploma/bachelor's degree	24	

The table above shows that the age characteristic results indicate that the number of respondents in the age range of 46 to 60 years is higher. This age group is more willing to fill out the questionnaire, as most patients only submit the prescription medications given by the doctor. These medications are then picked up after the outpatient visit or the next day to avoid long queues. Therefore, when patients come to collect their medication, researchers can easily ask them to fill out the questionnaire, which helps in obtaining the desired data. It is no surprise that more respondents aged 46 to 60 filled out the questionnaire in this study.

Regarding gender characteristics, more female respondents filled out the questionnaire than male respondents. Female respondents mostly provided a positive response when asked to fill out the questionnaire, which is why it is not surprising that more female respondents participated in the survey compared to male respondents.

As for education level characteristics, most respondents with a high school/vocational school education were the most willing to fill out the questionnaire and provide feedback on the quality of medication services. This is likely because they are easier to engage in conversation with and better understand the questions in the questionnaire.

The results of the recap of the percentage of adherence to antihypertensive medication use from each question in the MMAS-8 questionnaire.

Table 2. Percentage of Responses to Question 1 of the MMAS-8

Respons	Frequency	Percentage (%)
Yes	8	8
No	88	92
Total	96	100

Based on the percentage results of the responses to question 1, this question is intended to evaluate whether patients sometimes forget to take their medication. Table 2 shows that 8 respondents admitted to occasionally forgetting to take their medication, while the remaining 88 respondents reported taking their medication regularly as it has become a routine. Therefore, they fall into the adherent category, with a compliance rate of 92%.

Table 3. Percentage of Responses to Question 2 of the MMAS-8

Respons	Frequency	Percentage (%)
Yes	8	8
No	88	92
Total	96	100

Based on the percentage results of the responses to question 2, this question is intended to evaluate whether there were any days in the past two weeks when the patient did not take their medication. Table 3 shows that 8 respondents admitted to intentionally skipping their medication, while the remaining 88 respondents reported consistently taking their medication over the past two weeks. Therefore, they fall into the adherent category, with a compliance rate of 92%.

Table 4. Percentage of Responses to Question 3 of the MMAS-8

Respons	Frequency	Percentage (%)
Yes	5	5
No	91	95
Total	96	100

Based on the percentage results of the responses to question 3, this question is intended to evaluate whether patients stop taking their medication due to discomfort while using it. Table 4 shows that 5 respondents admitted to occasionally skipping their medication because their symptoms had subsided and they felt cured. Meanwhile, the remaining 91 respondents stated that they did not stop their treatment, placing them in the adherent category with a compliance rate of 95%.

Table 5. Percentage of Responses to Question 4 of the MMAS-8

Respons	Frequency	Percentage (%)
Yes	5	5
No	91	95
Total	96	100

Based on the percentage results of the responses to question 4, this question is intended to evaluate whether patients forget to take their medication when traveling. Table 5 shows that 5 respondents admitted to having forgotten to take their medication while traveling. Meanwhile, the other 91 respondents reported not interrupting their treatment because they remember which medications they need to take regularly. Additionally, some patients who forgot to bring their medication when traveling out of town took the initiative to purchase it at a nearby pharmacy to ensure their treatment was not disrupted. Therefore, they fall into the adherent category, with a compliance rate of 95%.

Table 6. Percentage of Responses to Question 5 of the MMAS-8

Respons	Frequency	Percentage (%)
Yes	6	6
No	90	94
Total	96	100

Based on the percentage results of the responses to question 5, this question is intended to evaluate whether the patient took their medication yesterday. Table 6

shows that 6 respondents answered that they forgot to take their medication, with some stating that they had run out of medication and forgot to return to the internal medicine clinic for a follow-up. Meanwhile, the remaining 90 respondents reported that they did take their medication yesterday. Therefore, they fall into the adherent category, with a compliance rate of 94%.

Table 7. Percentage of Responses to Question 6 of the MMAS-8

Respons	Frequency	Percentage (%)
Yes	4	4
No	92	96
Total	96	100

Based on the percentage results of the responses to question 6, this question is intended to evaluate whether patients stop taking their medication due to discomfort while using it. Table 7 shows that 4 respondents admitted to occasionally skipping their medication because they experienced side effects such as nausea and heart palpitations after taking antihypertensive drugs. Meanwhile, the remaining 92 respondents reported that they did not stop their treatment, placing them in the adherent category with a compliance rate of 96%.

Table 8. Percentage of Responses to Question 7 of the MMAS-8

Respons	Frequency	Percentage (%)
Yes	7	7
No	89	93
Total	96	100

Based on the percentage results of the responses to question 7, this question is intended to evaluate whether patients feel burdened by their medication schedule. Table 8 shows that 7 respondents admitted to occasionally feeling slightly burdened when taking their antihypertensive medication, as they were prescribed more than one type of drug. Meanwhile, the remaining 89 respondents reported not feeling burdened, as they had become accustomed to their routine. Therefore, they fall into the adherent category, with a compliance rate of 93%.

Table 9. Percentage of Responses to Question 8 of the MMAS-8

Respons	Frequency	Percentage (%)
Sometimes	9	9
Never	87	91
Total	96	100

Based on the percentage results of the responses to question 8, this question is intended to evaluate how difficult it is for patients to remember to take their medication. Table 9 shows that 9 respondents reported occasionally having difficulty, often missing their scheduled medication times and feeling bored due to the continuous need to take the medication. Meanwhile, the remaining 87 respondents stated that they had no difficulty at all, as they were already used to it. Therefore, they fall into the adherent category, with a compliance rate of 91%.

Table 10. Average Responses to MMAS-8 Questions

Questions	Percentage (%)	Category
Question 1	92	Adherent
Question 2	92	Adherent
Question 3	95	Adherent
Question 4	95	Adherent
Question 5	94	Adherent
Question 6	96	Adherent
Question 7	93	Adherent
Question 8	91	Adherent
Average	94	Adherent

Based on the results from Table 10, it shows that the level of adherence to antihypertensive medication use at the Internal Medicine Outpatient Clinic of Anna Medika Madura Hospital, based on the responses to the following questions, falls under the "adherent" category. Question 1 evaluating whether patients sometimes forget to take their medication categorized as adherent. Question 2 evaluating whether there were days in the past two weeks when patients did not take their medication categorized as adherent. Question 3 evaluating whether patients stop their medication due to discomfort while using it categorized as adherent. Question 4 evaluating whether patients forget to take their medication while traveling categorized as adherent. Question evaluating whether patients took their medication yesterday categorized as adherent. Question 6 evaluating whether patients stop their

medication due to discomfort while using it categorized as adherent. Question 7 evaluating whether patients feel burdened by the medication schedule categorized as adherent. Question 8 evaluating how difficult it is for patients to remember to take their medication categorized as adherent.

The results of this study show that the level of adherence to antihypertensive medication use among patients at the Internal Medicine Outpatient Clinic of Anna Medika Madura Hospital indicates that the majority of patients are adherent to their medication.

In a study by (Aini Lailiyah, 2024) conducted in the same region but at a different hospital (RSUD Syarifah Ambami Rato Ebu in Bangkalan), the results showed that the level of knowledge and adherence to medication among hypertensive patients was as follows: knowledge levels were high (36%), moderate (58.7%), and low (5.3%). Adherence levels were high (41.3%), moderate (52%), and low (6.7%). This indicates that the majority of hypertensive patients at RSUD Syarifah Ambami Rato Ebu had moderate adherence and moderate knowledge.

The results show that patients' understanding of hypertension and therapy significantly influences their adherence to medication. The adherence level is quite high in both hospitals, although there are differences in the figures. At RSU Anna Medika Madura, the majority of patients show high adherence (94%), whereas at RSUD Syarifah Ambami Rato Ebu, the majority show moderate adherence (52%). The study emphasizes that adherence to antihypertensive medication remains a challenge but can be improved through counseling, education, and individualized approaches to patients.

Conclusion

The majority of patients demonstrated a high level of adherence to antihypertensive medication, categorized as adherent, with an average adherence rate of 94% based on the MMAS-8 instrument. Patients tend not to miss taking their medication, even while traveling or feeling healthy, showing a good awareness of the importance of long-term hypertension treatment to prevent complications. These results indicate that patient education and awareness at RSU Anna Medika Madura about the importance of antihypertensive therapy are already quite effective. The MMAS-8 method, while practical and widely used, has limitations such as subjectivity, social desirability bias, risk of overestimating adherence, recall bias, and potential misunderstanding by patients with lower education levels. It also lacks objective measurements like pill counts or pharmacy records. To improve future studies, combining MMAS-8 with objective methods, providing clear instructions, ensuring anonymity, conducting repeated measurements, including interviews, and expanding the study to other health facilities are recommended.

Declaration of Competing Interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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