



Level of Compliance with the Use of Amlodipine in Hypertensive Patients of Productive Age in Housing Dinari RT 01, Gresik

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Abstract

Hypertension was a disease that sufferers often did not realize they had, making it known as the silent killer. It was a leading cause of serious complications, such as heart attacks and strokes, and a major contributor to deaths from non-communicable diseases. Amlodipine was a medication used to treat hypertension, which worked by inhibiting calcium flow, helping to lower blood pressure. Although it was effective, its side effects, such as ankle swelling and headaches, could affect patient compliance. A preliminary survey revealed that most respondents only took the medication when they felt unwell. This study aimed to measure the level of compliance with amlodipine among productive-age hypertensive patients in the Dinari Housing Complex, RT 01, Gresik. A questionnaire was distributed via Google Form. The results showed that 91% of productive-age hypertensive patients had low compliance, 6% had moderate compliance, and 3% had high compliance.

Keywords: Amlodipine, Hypertension, Adherence, Productive Age

Introduction

Hypertension is a disease that usually does not cause specific signs or symptoms. Currently, the mortality and morbidity rates of non-communicable diseases, including hypertension, continue to increase and impact public health in Indonesia (Ministry of Health, 2023). It is estimated that more than one billion individuals aged 30-79 globally suffer from hypertension, with most living in low- and middle-income countries. Nearly 46% are unaware of their health condition, and only 42% have been diagnosed and are receiving therapy. Thus, the rate of hypertension control is still low, around 21%, or only 1 in 5 patients. Hypertension plays a major role as a trigger for premature death at the global level. Global efforts in the management of non-communicable diseases target a one-third reduction in hypertension cases between 2010 and 2030 (Shimizu, 2023).

Hypertension management requires close collaboration between patients and doctors. Patient adherence to hypertension treatment is not only measured by consistency in taking antihypertensive medication, but also involves the patient's active role in regularly checking their health according to the schedule set by the doctor, as well as willingness to implement changes toward a healthy lifestyle as advised (Sahadewa et al., 2019). One of the medications for treating hypertension is amlodipine.

Amlodipine is a drug in the Calcium Channel Blocker (CCB) class, with a mechanism that inhibits calcium flow to the central nervous system, thereby preventing ischemic injury and neuronal cell death in the brain. (Ulfa & Kautsar, 2019). Adherence to taking amlodipine medication remains a problem in drug therapy. Adherence, also known as compliance, is the extent to which patients follow the instructions given by the doctor. Non-adherence in treatment is often a cause of disease recurrence. If patients do not follow the treatment plan, they risk losing the full benefits of the therapy that should be obtained (Susanti et al., 2022).

One of the tools to assess patient adherence to medication is the MMAS-8 (Morisky Medication 8-item Adherence Scale). An initial survey of the working-age residents of Dinari Housing, Gresik, showed that 11 (73%) out of 15 people used amlodipine for hypertension treatment. Of the residents who used amlodipine, 91% only took amlodipine when they were sick. Based on this, further research is needed regarding the level of adherence to taking amlodipine in Dinari Housing RT 01, Gresik.

Methodology

This study uses a quantitative descriptive method with purposive sampling technique where respondents are selected according to pre-designed inclusion criteria. The inclusion criteria include residents of Dinari Housing of productive age (15–64 years), having a history of hypertension, using amlodipine with a doctor's prescription, and willing to fill out a questionnaire. Data collection was conducted from May to June 2025 at Dinari Housing RT 01, Gresik. The stages of data collection in this study include obtaining research permission, creating a questionnaire on adherence to amlodipine use by translating the questionnaire from English into Indonesian in the form of a Google Form, providing information to residents, and distributing the questionnaire through WhatsApp. The instrument commonly used to assess patient adherence to medication is the MMAS-8 (Morisky Medication 8-item Adherence Scale) to evaluate adherence to medication use. Data processing was carried out by converting the answers ...

The instrument commonly used to assess patient adherence to treatment is the MMAS-8 (Morisky Medication 8-item Adherence Scale) to evaluate medication adherence. Data processing is carried out by converting questionnaire answers into numerical scores for easier analysis, then compiled into tables and summed. The assessment for each question follows the MMAS-8 scoring rules, which are: for questions number 1, 2, 3, 4, 6, and 7, yes = 0 and no = 1, while question number 5 is scored yes = 1 and no = 0. Meanwhile, question number 8 uses a frequency scale, namely never = 1, occasionally = 0.75, sometimes = 0.5, usually = 0.25, and always = 0. After the scores from all the questions are totaled, the final result is interpreted based on the compliance level categories, namely high compliance (score 8), moderate compliance (score 6-8), and low compliance (score 0-6).

Table 1. Scoring Data Level of Compliance

Score	Category
0-6	Low
6-8	Medium
8	High

Source: (Wirakhmi and Purnawan, 2021)

Result and Discussion

Respondent Characteristics

The research was conducted at Dinari Housing RT 01, Gresik in May-June 2025. There were 32 respondents who suffered from hypertension in the productive age (15-64

years) and used amlodipine as antihypertensive therapy. Data regarding the characteristics of the respondents are presented in Table 1.

Table 2. Respondent Compliance Category

Characteristic	Frequen cy	Percentage (%)
Gender		
Male	18	56,25
Female	14	43,75
Age		
15-24	0	0
25-34	2	6,25
35-44	5	15,63
45-54	14	43,75
55-64	11	34,38
Job		
Students	1	3,13
Private employees	9	28,13
Civil servants	2	6,25
Entrepreneurs	5	15,63
Others	15	46,88
Total	32	100

Based on the observations of 32 respondents, it shows that the number of male hypertension sufferers is higher compared to females, which is 56.25%. Based on age range, the majority of respondents are in the 45-54 year age group (43.75%). In the job category, the majority of respondents are in the "others" group, totaling 46.88%.

1. Compliance

Table 3. Respondents' Answers to the MMAS-8 Questionnaire

No	Question	Yes (%)	No (%)
1	Do you sometimes forget to take your medicine?	22 (68,75)	10 (31,25)
2	People sometimes don't get a chance to take their medicine not because they forget. In the past 2 weeks, have you ever deliberately not taken your medicine?	19 (59,38)	13 (40,63)
3	Have you ever reduced or stopped taking medication without telling your doctor because you felt the prescribed medication was making your condition worse?	20 (62,50)	12 (37,50)
4	Do you sometimes forget to bring your medicine when traveling or leaving the house?	24 (75)	8 (25)
5	Did you take your medicine the last time you were supposed to take it?	25 (78,13)	7 (21,88)

6	Do you stop taking medication when you feel the symptoms you are experiencing are under control?	22 (68,75)	10 (31,25)		
7	Taking medicine every day is a discomfort for some people. Do you feel bothered having to take medicine every day?	24 (75)	8 (25)		
8	How often do you have difficulty remembering to take all your medications?				
		(Never)	(Occasionally)	(Seldom)	(Usually) (Always)
		4 (12,50)	0 (0)	13 (40,63)	4 (12,50) 11 (34,38)

Table 2 explains the results of filling out the MMAS-8 questionnaire, which shows that the majority of respondents have an irregular pattern of antihypertensive drug consumption. Based on the table, for question number 1 regarding a person's memory, 68.75% of respondents answered 'Yes,' indicating that most respondents often forget to take amlodipine. For question number 2 regarding the element of intentionality by individuals not to take the medication, 59.38% of respondents answered 'Yes,' meaning that more than half of the respondents have deliberately skipped taking their medication, even if not due to forgetfulness. For question number 3 regarding the frequency of medication consumption, 62.50% of respondents answered 'Yes,' showing that many respondents reduce, increase, or stop their medication dose without a doctor's recommendation, which is a form of noncompliance that carries considerable risk. On question number 4 regarding a person's memory when having activities outside the home, 75% of respondents answered 'Yes', which means that activities or busyness are a major obstacle to adherence.

In question number 5 regarding accuracy in taking medication, 78.13% of respondents answered 'Yes', indicating that the majority of respondents take their medication at the correct time, thus reflecting a good level of adherence to the last dose. In question number 6 regarding stopping medication when symptoms have improved, 68.75% of respondents answered 'Yes', indicating that many respondents stop medication once symptoms have improved. In question number 7 regarding comfort in taking medication, 75% of respondents answered 'Yes', showing that discomfort in the routine of taking medication is a major barrier to adherence. Complaints about daily consumption become a common barrier to adherence.. In question number 8, which relates to the level of difficulty experienced by the community in taking medication, 40.63% stated sometimes, 34.38% of respondents stated that they always experience difficulty, and only 12.50% of respondents stated that they usually experience difficulty, and no respondents chose the answer "occasionally." This data indicates

that memory problems and irregularity in medication routines are still the main obstacles to consistent consumption of Amlodipine.

3. Hypertension Medication Adherence Level

The overall compliance of hypertension patients in taking medication from the questionnaire is shown in Table 3.

Table 4. Compliance of Hypertension Patients in Taking Medication

Classification	Frequency	Percentage (%)
Low	29	90,63
Medium	2	6,25
High	1	3,13
Total	32	100

Based on Table 3, it is shown that the level of adherence to hypertension treatment in taking Amlodipine indicates that 91% of respondents have low compliance, 6% of respondents have moderate compliance, and only 3% of respondents show high compliance. These results indicate that the majority of respondents face obstacles in following the prescribed medication regimen, especially in the use of Amlodipine as a long-term medication to control high blood pressure. This low level of adherence may be due to patients' lack of understanding about the importance of long-term therapy, discomfort from medication side effects, as well as the perception that hypertension symptoms are not felt directly, making patients feel they do not need to continue treatment regularly (Juniarti et al., 2023). This can make Amlodipine less effective, as the medication needs to be taken regularly to maintain a stable level in the body..

References

- Juniarti, B., Setyani, F. A. R., & Amigo, T. A. E. (2023). Tingkat Pengetahuan Dengan Kepatuhan Minum Obat Pada Penderita Hipertensi. *Cendekia Medika: Jurnal Stikes Al-Ma'arif Baturaja*, 8(1), 43–53. <https://doi.org/10.52235/cendekiamedika.v8i1.205>
- Kemendes. (2023). *Pedoman Pengendalian Hipertensi di Fasilitas Kesehatan Tingkat Pertama*. Jakarta: Direktur Jenderal Pencegahan dan Pengendalian Penyakit.
- Sahadewa, S., Novita, N., Dwipa, K., Yoga, G. A., & Pertiwi, M. D. (2019). Hubungan Pengetahuan terhadap Kepatuhan Minum Obat Anti Hipertensi pada Pasien Hipertensi Usia Lanjut di Puskesmas Krian Kabupaten Sidoarjo. *Journal Medical*, 17(1), 75–89.
- Shimizu, Y. (2023). *Hypertension*. WHO. <https://www.who.int/news-room/fact-sheets/detail/hypertension>. Diakses tanggal 29 November 2024
- Susanti, D., Paramita, P., & Antaria, A. (2022). Analisis Faktor Kepatuhan Minum Obat

- Pasien Skizofrenia di Poli Mentari Puskesmas Kecamatan Kalideres (Analisis Data Sikda Tahun 2019). *Jurnal Kesehatan Masyarakat Indonesia*, 17(1), 25. <https://doi.org/10.26714/jkmi.17.1.2022.25-31>
- Ulfa, I., & Kautsar, P. A. (2019). Drug Utilization Research Obat Antihipertensi pada Pasien Rawat Jalan Tahun 2018 di Rumah Sakit Paru DR H A Rotinsulu dengan Metode ATC/DDD : Cross-Sectional Study. *Farmaka*, 17(2), 71–79.
- Tarigan, M., Wulandari, A., Rahmadini, I., Aulia, R., & Pratiwi, I. (2019). Gaya Berpikir Dan Dinamikanya Pada Karyawan Usia Produktif. *Jurnal RAP (Riset Aktual Psikologi Universitas Negeri Padang)*, 10(1), 62-77.
- Pratiwi, H., Mustikaningtiyas, I., Widyartika, F. R., Setiawan, D., Nasrudin, K., & Julietta, L. (2020). Analisis persepsi masyarakat terhadap peran apoteker pada layanan
- Dipiro, J. T., Talbert, R. L., Yee, G. C., et al. (2020). *Pharmacotherapy: A Pathophysiologic Approach* (11th ed.). McGraw-Hill Education.
- Wulandari, S., Pradipta, I. S., & Maharani, A. (2020). Hubungan Tingkat Pendidikan dan Pekerjaan terhadap Kepatuhan Penggunaan Obat Antihipertensi. *Jurnal Ilmu dan Teknologi Kesehatan*, 9(1), 30–36.
- Sweetman, S. (2014). Martindale. In S. Sean (Ed.), *Martindale: The Complete Drug Reference* (36th ed., Vol. 11). London: Pharmaceutical Press. https://doi.org/10.1007/978-1-4899-8011-3_20
- Ulfa, I., & Kautsar, P. A. (2019). Drug Utilization Research Obat Antihipertensi pada Pasien Rawat Jalan Tahun 2018 di Rumah Sakit Paru DR H A Rotinsulu dengan Metode ATC/DDD : Cross-Sectional Study. *Farmaka*, 17(2), 71–79.
- Wang, J. G., Palmer, B. F., Vogel Anderson, K., & Sever, P. (2023). Amlodipine in the current management of hypertension. *Journal of Clinical Hypertension*, 25(9), 801–807. <https://doi.org/10.1111/jch.14709>
- Wirakhmi, I. N., & Purnawan, I. (2021). Hubungan Kepatuhan Minum Obat Dengan Tekanan Darah Pada Penderita Hipertensi. *Jurnal Ilmu Keperawatan Dan Kebidanan*, 2(2) 327. <https://doi.org/10.26751/jikk.v12i2.1079>
- Yudho, N. K. (2023). Mengoptimalkan Bonus Demografi: Kesehatan Masyarakat Sebagai Kunci Keberhasilan. Kemenkes. <https://ayosehat.kemkes.go.id/mengoptimalkan-bonus-demografi-kesehatan-masyarakat-sebagai-kunci-keberhasilan>. Diakses tanggal 7 November 2024
- Ernawati, I., Fandinata, S. S., & Permatasari, S. N. (2022). Kepatuhan Konsumsi Obat Pasien Hipertensi (N. Reny (ed.)). Anggota IKAPI.
- Hasna, A., Meilianingsih, L., & Sugiyanto, S. (2023). Stres Mempengaruhi Kualitas Hidup Pasien Hipertensi di Puskesmas Garuda Kota Bandung. *Jurnal Keperawatan Indonesia Florence Nightingale*, 3(1), 17–25 <https://doi.org/10.34011/jkifn.v3i1.1352>
- Indhayani, L. (2018). Studi Penggunaan Obat Antihipertensi Pada Wanita Hamil yang Didiagnosis Hipertensi di Rumah Sakit Pmi Kota Bogor. *Jurnal Sains Dan Teknologi Farmasi Indonesia*, 7(1). <https://doi.org/10.58327/jstfi.v7i1.70>
- Julaiha, S. (2019). Analisis Faktor Kepatuhan Berobat Berdasarkan Skor MMAS-8 pada Pasien Diabetes Mellitus Tipe 2. *Jurnal Kesehatan*, 10(2), 203–214. <https://doi.org/10.26630/jk.v10i2.1267>
- Juniarti, B., Setyani, F. A. R., & Amigo, T. A. E. (2023). Tingkat Pengetahuan Dengan Kepatuhan Minum Obat Pada Penderita Hipertensi. *Cendekia Medika: Jurnal Stikes Al-Ma`arif Baturaja*, 8(1), 43–53.