



RESEARCH ARTICLE

Article URL: <https://ojs.poltekkes-malang.ac.id/index.php/HAJ/index>**Treatment Adherence Among Hypertensive Patients: A Qualitative Case Study****Eko Sari Wahyuni^{1(CA)}, Amelia Kartika Putri², Swito Prastiwi³**^{1,2,3} Departement of Nursing, Poltekkes Kemenkes MalangCorrespondence author's email (CA): ekosariwahyuni@poltekkes-malang.ac.id**ABSTRACT**

Hypertension, known as the silent killer, is a chronic disease requiring long-term management. Patient adherence to a treatment program is a key determinant of therapeutic success; however, non-adherence remains widespread. This study aimed to determine the level of adherence among hypertensive patients in following the treatment program at Lavalette Hospital, Malang City. A descriptive qualitative method with a case study design was employed, involving five outpatient hypertensive patients, conducted from February 19 to March 26, 2025. Data were collected through in-depth interviews, direct observation, and blood pressure measurements across three visits per subject. Based on clinical assessment and participant self-report, all subjects appeared to demonstrate low adherence to antihypertensive medication. However, adherence was not measured using a validated standardized instrument. Factors contributing to non-adherence included limited knowledge about hypertension, low family support, fear of medication side effects, daily busyness, and restricted access to healthcare facilities. Blood pressure in all subjects remained above normal values. The findings suggest that continuous patient education and active family involvement may represent important strategies for improving hypertension treatment adherence, though further research with larger samples is warranted.

Keywords : Family support; health education; hypertension; patient knowledge; treatment adherence.

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License (<https://creativecommons.org/licenses/by-sa/4.0/>)**INTRODUCTION**

Hypertension, or high blood pressure, is a non-communicable disease widely prevalent in the community and one of the leading causes of death worldwide [1]. It is often referred to as the "silent killer" because it shows no symptoms for years, yet can trigger serious complications such as heart attack, stroke, renal failure, and heart failure if not properly managed [2].

Globally, an estimated 972 million adults, approximately 26.4% of the world's adult population, were living with hypertension in 2000, and this number was projected to rise to 1.56 billion by 2025 [3]. High systolic blood pressure was responsible for an estimated 10.4 million deaths in 2017 [4]. In Indonesia, a nationally representative survey reported a hypertension prevalence of 33,4% among adults [5], [6].

Although treatment for hypertension is widely available, patient adherence to treatment programs remains low. In Indonesia, only 42.9% of adults with hypertension were aware of their condition, and only 11.5% were receiving treatment [4]. Commonly reported reasons for poor adherence include feeling healthy and perceiving medication as unnecessary, forgetting to take medication, difficulty obtaining medicine, and drug side effects [5], [6]. Such non-adherence can cause complications or worsen the patient's condition, making discipline and self-awareness essential in controlling hypertension [6], [7].

A preliminary study conducted in July 2024 in Malang City, involving 20 hypertensive outpatients selected through purposive sampling at a primary healthcare centre in Malang City, found that more than 75% were non adherent to their treatment programs based on structured interviews assessing self-reported medication taking behaviour. Two primary factors were identified: patient attitudes toward treatment and level of knowledge about hypertension. Many patients reported feeling symptom free and therefore tended to neglect routine treatment. Limited access to healthcare facilities and fear of medication side effects also emerged as significant barriers. Theoretically, adherence behaviour in this study is understood through the lens of the Health Belief Model (HBM), which posits that health-related decisions are shaped by perceived susceptibility, severity, benefits, and barriers, as well as the WHO five dimension adherence framework encompassing patient, therapy, socioeconomic, healthcare system, and disease related factors [5], [8]. While prior studies have largely employed quantitative approaches to examine single factor correlates of adherence, this study contributes a qualitative, in-depth exploration of the simultaneous interplay of multiple barriers in a hospital based outpatient setting in Malang City, offering contextual insights not typically captured in large scale surveys. Based on the above, this study aimed to determine the level of adherence among hypertensive patients in following the treatment program at Lavalette Hospital, Malang City, and to identify the factors influencing such adherence.

METHODS

This study employed a descriptive method with a qualitative approach using a case study design. The study aimed to explore and explain in depth the factors affecting adherence of hypertensive patients to treatment programs at Lavalette Hospital, Malang City. Data collection was conducted from February 19 to March 26, 2025.

The study involved five hypertensive outpatients at Lavalette Hospital, Malang City, recruited through purposive sampling. Participants were selected based on their ability to provide rich, contextually relevant information about barriers to treatment adherence. In qualitative case study research, sample size is determined by the depth of information sought rather than statistical power; five participants were considered sufficient for an exploratory case study design within a single clinical

setting, consistent with recommendations for single-site qualitative case studies [9]. Data saturation was monitored throughout data collection: after the fourth and fifth interviews, no new major themes emerged regarding barriers to adherence, suggesting that saturation had been reached. Inclusion criteria comprised patients receiving outpatient hypertension treatment at Lavalette Hospital, aged over 18 years, able to communicate effectively, and willing to participate. Exclusion criteria included patients no longer receiving treatment at the hospital, those unwilling to participate, or those who were uncooperative.

Data collection was carried out across three visits per subject using three methods: (1) in-depth interviews with structured interview guides to explore patients' knowledge, attitudes, and treatment-related behaviors. The interview guide was developed based on a review of the literature on adherence barriers and was reviewed by two expert nurses for content validity prior to use. A pilot test was conducted with one hypertensive patient not included in the main study to assess comprehensibility and feasibility; (2) direct participatory observation using observation sheets to monitor patient habits and adherence; and (3) blood pressure measurements using a sphygmomanometer. Interviews were also conducted with a family member of each subject.

The data obtained were qualitative in nature and analyzed using descriptive qualitative analysis techniques. Interview recordings were transcribed verbatim and coded independently by the primary researcher. Codes were grouped into categories and then consolidated into overarching themes through an inductive thematic analysis process [10], [11]. Themes were verified through triangulation with observational data and blood pressure measurements, and member checking was performed by sharing summaries with participants to confirm accuracy of interpretation. Ethical approval was obtained from the Research Ethics Committee. All participants provided written informed consent prior to enrolment. Anonymity was maintained through the use of subject codes (S1–S5), and all data were stored confidentially.

RESULT

Characteristics of Research Subjects

The study involved five subjects (S1–S5) who were hypertensive patients at Lavalette Hospital, Malang City. The majority were female (4 out of 5 subjects), with ages ranging from 48 to 74 years. All subjects had been living with hypertension for more than five years. Four subjects had comorbidities, namely diabetes mellitus and hypercholesterolaemia. The most commonly consumed antihypertensive drug was amlodipine 10 mg. Complete demographic data are presented in Table 1.

Table 1. Characteristics of Research Subjects

Characteristics	S1	S2	S3	S4	S5
Age (years)	74	48	60	67	62
Sex	F	F	F	M	F
Education	Elem.	Sr. HS	Elem.	Sr.HS	Jr. HS
Duration of hypertension	18	10	5	6	8
Comorbidity	Hypercholesterolaemia	-	DM	DM + Hypercholesterolaemia	DM
Antihypertensive medication	Spironolactone 5 mg, Candesartan 5 mg	Amlodipine 10 mg	Captopril 25 mg	Amlodipine 10 mg	Amlodipine 10 mg
Las BP (mmHg)	178/95 mmHg	167/107 mmHg	188/89 mmHg	165/87 mmHg	153/119 mmHg

Note: S1-S5 = Subject 1-5; F = Female; M = Male; Elem. = Elementary School; Jr.HS = Junior High School; Sr.HS= Senior High School; DM = Diabetes Mellitus; BP = Blood Pressure; mg = milligram; mmHg = millimetres of mercury.

Level of Patient Knowledge about Hypertension

Based on interview results, the majority of subjects (S1, S2, S3, and S5) had limited knowledge about hypertension. They described hypertension merely as high blood pressure disease without understanding its causes, risk factors, or long-term consequences. Most patients cited only stress and fatigue as the main causes, without mentioning other risk factors such as excessive salt intake, obesity, or family history.

Subject S1 stated: *"I only know that hypertension is high blood pressure, but I don't know what causes it—maybe because of my age."*

In contrast, S4 demonstrated a better level of understanding. He was able to explain that hypertension is linked to an unhealthy lifestyle and excessive salt consumption, and acknowledged the importance of maintaining a healthy lifestyle.

S4 stated: *"From what I know, hypertension is a high blood pressure disease that can be caused by stress and an unhealthy lifestyle. As far as I know, people who already have hypertension like me are not allowed to consume too much salt and must maintain a healthy lifestyle"*.

This statement indicates that S4 already possessed a sound basic understanding of hypertension management, including the role of lifestyle modification. Observational data further confirmed these findings, as most other subjects continued to practice unhealthy dietary habits compared to S4.

Medication Adherence

All five subjects (S1–S5) did not take their antihypertensive medications regularly in accordance with the prescribed schedule and dosage. Patients tended to take medications only when experiencing symptoms or complaints.

Subject S1 stated: *"I often forget to take my medicine because I have to sell goods from morning to afternoon every day, and sometimes I just feel lazy to take it"*.

Subject S2 stated: *"I only take medicine when I have complaints, because I am afraid of taking it continuously"*. Subject S3 stated: *"I take medicine only when I have symptoms, because every time I take it I feel dizzy and weak"*.

Subject S4 stated: *"I take medicine if my family prepares it for me; if they are busy or forget to prepare it, I won't take it"*.

Subject S5 stated: *"I sometimes take medicine and sometimes don't. I also often forget because I have to do all the household chores by myself, and if I take the medicine I feel weak and won't be able to do any housework, so I only take it when I have complaints"*.

These statements collectively illustrate that barriers to adherence are multifactorial, encompassing daily busyness, concerns about side effects, dependence on family members, and limited understanding of the importance of continuous therapy.

Table 2. Observation Results of Subjects' Treatment Adherence

Observation Aspect	S1	S2	S3	S4	S5
Medication taken as scheduled	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Understands importance of treatment	No	No	No	Yes	No
Experiences drug side effects	No	No	Yes	No	Yes
Follows healthy diet recommendations	No	Yes	No	Yes	No
Routine medical follow-up	Yes	No	Yes	Yes	Yes
Family support for treatment	No	No	No	Yes	Yes
Patient's disease awareness level	Low	Moderate	Moderate	High	Moderate
Barriers to accessing healthcare	No	Yes	No	No	Yes

Note: S1-S5= Subject 1-5. Disease awareness level: Low = none of three criteria met; Moderate = one or two criteria met; High = all three criteria met (criteria are described in the text below the table).

Table 2 presents the results of observational assessments conducted across three visits per subject. The disease awareness categories (Low, Moderate, and High) were assigned based on a composite assessment of each subject's ability to correctly identify hypertension as a chronic disease requiring continuous treatment, articulate at least two risk factors or complications, and demonstrate consistent health-seeking behaviour during observation. "Low" awareness indicated inability to fulfil any of these criteria, "moderate" indicated partial awareness (one or two criteria met), and "high" indicated awareness meeting all three criteria. Table 2 demonstrates that only S4 met all criteria for high disease awareness and was the sole subject who consistently understood the importance of continuous treatment. The majority of subjects (S1, S3, S5) demonstrated low to moderate awareness, corroborating the interview findings. Subjects reporting drug side effects (S3 and S5) were also those who most consistently refused medication intake, underscoring the clinical significance of side effect management

as a barrier. Family support was confirmed through direct observation in only S4 and S5, whereas interview data from S1, S2, and S3 indicated minimal family involvement in medication supervision.

Barriers to Following the Treatment Program

Interview results revealed diverse barriers faced by each subject.

S1 stated: *"I have to work every day and there is no one to take me to the hospital, so sometimes I don't attend follow-up appointments and don't take my medicine regularly"*.

S2 stated: *"I live far from the hospital, so it is difficult to come for regular check-ups because the journey is long"*.

S3 stated: *"I have to wait for my child to accompany me to the hospital; if my child is busy, I cannot go alone"*.

S4 stated: *"I usually attend check-ups together with my child; if they cannot come, I don't go either."*

S5 stated: *"I don't come for regular check-ups because I still have medicine at home, so I delay going to the hospital"*.

These statements demonstrate that barriers to adherence are diverse, ranging from time constraints and daily busyness, geographical distance, dependence on a companion, to lack of initiative to attend routine check-ups even when medication is still available.

Family Support in the Treatment Process

Interviews with family members revealed that 4 out of 5 families had not fully understood the important role they play in supporting the patient's treatment.

S1's family stated: *"I do not know exactly what my wife is suffering from, because I never have time to take her to the hospital for check-ups or to supervise her when taking her medicine. All I know is that my wife has high blood pressure and needs to come for a check-up once a month"*.

S2's family stated: *"I cannot monitor my mother every day to make sure she takes her medicine, because I have to work. However, I always try to accompany my mother for her monthly check-up"*.

S3's family stated: *"I don't live in the same house as my mother, so I cannot always prepare her medicine, but whenever I have free time I visit her and always remind her to take her medicine and accompany her to her check-ups on time"*.

S4's family stated: *"I always prepare the medicines that my grandfather has to take, but sometimes I forget to prepare them when I wake up late and have to rush off to school"*.

S5's family stated: *"I always remind my mother to take her medicine, but she always refuses and says that every time she takes the medicine she feels weak and dizzy"*.

These statements collectively illustrate that family involvement remains inconsistent and has not yet been optimally established in supporting patient treatment adherence.

DISCUSSION

Regarding patients' knowledge about hypertension, the findings revealed that the majority of subjects had limited knowledge about the disease. Knowledge serves as a crucial foundation in shaping patients' behaviour in following treatment and complying with healthcare providers' advice; a sound understanding encompasses the definition, causes, symptoms, and long-term consequences of the disease [12], [13]. The Health Belief Model explains that patient adherence is determined by the perceived susceptibility to disease and the belief in the benefits of the actions taken [8]. These findings are consistent with Karakurt et al., who reported that health literacy was positively associated with medication adherence among patients with hypertension [13]. Subject S4, who demonstrated better knowledge, also showed a higher level of disease awareness and relatively better adherence than other subjects. Conversely, patients with limited understanding tended to be passive and indifferent to long-term treatment, in line with qualitative evidence identifying inadequate medication literacy as a barrier to adherence [14]. Continuous education by nurses and healthcare workers is therefore essential, particularly through elderly integrated healthcare posts (*posyandu lansia*) as a strategic venue for delivering health education to older adults at high risk of hypertension.

In terms of medication adherence, all subjects demonstrated non-adherence to antihypertensive medication. Patients consumed their medication only when experiencing symptoms rather than based on the understanding that therapy must be continuous. Non-adherence encompasses delayed or failed initiation of therapy, suboptimal implementation such as skipped or mistimed doses, and premature discontinuation, all of which prevent therapeutic benefits from being achieved and allow the patient's condition to deteriorate gradually [15]. Burnier and Egan stated that non-adherence to drug therapy is a major factor behind failure to control blood pressure, which increases the risk of complications such as stroke, heart failure, and kidney disease [16]. This was reflected in the blood pressure data of all subjects, which remained above normal values, with some subjects recording markedly elevated readings (S3: 188/89 mmHg; S1: 178/95 mmHg). The concerns about side effects expressed by S3 and S5 also constituted a significant barrier; experiencing side effect symptoms is associated with lower adherence to antihypertensive medication, and patients' concerns about medicines can outweigh their perceived need for treatment, reflecting a lack of education regarding the management of antihypertensive side effects [17], [18].

Regarding the role of family support, the findings indicate that family support plays an important role in improving patient adherence to treatment. Subject S4, who received active support from family members, demonstrated the highest level of disease awareness and consistently understood the importance of treatment compared to other subjects. Pan et al. reported that social support has a significant effect on treatment adherence among patients with hypertension [19]. Conversely, the lack of family support experienced by S1, S2, and S3 contributed to lower disease awareness and poorer

treatment adherence. Interventions involving family members must therefore be strengthened, as family member-based supervision has been shown to benefit patients with hypertension [20]. Education should not target patients alone but also the family as the primary caregiver, and strengthening the family's role through integrated counselling programmes should be made a priority in hypertension management at both primary healthcare and hospital levels.

Concerning barriers to access and treatment motivation, practical barriers such as distance, limited mobility, and dependence on a companion represent significant external factors affecting adherence [21]. Barriers within the healthcare system, including difficulties in accessing services and transportation, together with limited social support, are among the primary factors behind low adherence to long-term treatment, and access to health care has also been identified as a key theme among patients with untreated hypertension in Indonesia [22]. Internal factors, including low motivation stemming from feeling healthy despite not taking medication, also pose a major challenge. Applicable solutions include home-visit services by healthcare workers, accompaniment by community health volunteers, and the development of digital medication reminder systems, as text-message reminders have been shown to improve medication adherence in chronic disease [23].

Finally, with regard to patient attitudes toward hypertension treatment, attitudes also play an important role in determining the level of adherence. Most subjects in this study demonstrated less positive attitudes toward long-term medication use, as reflected in their tendency to take medication only when symptomatic and their excessive concern about side effects. Horne et al. showed that adherence is closely related to patients' beliefs about the necessity of their medicines and their concerns about them; a positive attitude toward treatment increases the likelihood of following medical instructions, whereas negative beliefs and concerns can lead to non-adherence and subsequently worsen health outcomes [24]. The perception of being healthy in the absence of symptoms led patients to feel that regular medication was unnecessary, even though hypertension, as a silent killer, is particularly dangerous precisely because it presents without obvious symptoms. This underscores the importance of structured interventions to shift patient perceptions and attitudes through counselling by healthcare providers, particularly nurses, as nurse-led interventions can improve blood pressure control [25].

CONCLUSION

The level of adherence of hypertensive patients in following the treatment program at Lavalette Hospital, Malang City remains low. All subjects did not take their antihypertensive medications regularly as prescribed, based on clinical assessment and self-report (noting that a validated standardised adherence instrument was not used), resulting in persistently uncontrolled blood pressure. Factors contributing to non-adherence included limited knowledge about hypertension as a chronic disease requiring continuous treatment, insufficient family supervision of medication intake, fear of drug side

effects, daily busyness, and limited access to and mobility toward healthcare facilities. Continuous education directed at both patients and their families, alongside the strengthening of social support systems, are among the potentially important strategies suggested by the exploratory findings of this study to improve hypertension treatment adherence. However, larger scale research is needed to confirm their effectiveness. Healthcare providers, particularly nurses, must take an active role in delivering sustained and personalised education to patients and their families.

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