



DETERMINANTS OF MEDICATION NON-ADHERENCE AMONG HYPERTENSIVE PATIENTS IN THE COMMUNITY: A LITERATURE REVIEW

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ABSTRACT

Hypertension has become a pressing public health challenge. Pharmacological therapy is an essential cornerstone in hypertension management, but non-adherence to treatment in hypertensive patients remains a serious problem and contributes to the high incidence of complications. This study aims to identify and summarize various recent research results related to the determinants of non-compliance with medication in hypertensive patients in the community. This study was designed with a literature review approach. A literature search was conducted in the international databases PubMed, Science Direct, and EBSCOhost with the keywords "hypertension" AND "Antihypertensive Medication" AND "Non-compliance". Literature was retrieved based on inclusion criteria with the PEO approach, namely Population: hypertension patients, Exposure: various factors related to the consumption of hypertension medication, and Outcome: non-compliance in taking antihypertensive medication. Only research results published in 2020-2025 were designated as literature. A total of 218 articles have been designated nine articles met the inclusion criteria and found that non-compliance in hypertension patients was associated with various interrelated factors, namely individual factors: advanced age or productive age, divorced or widow/widower status, obesity, comorbidity, insomnia, use of supplements, dietary patterns, duration of hypertension, psychological and behavioral factors: lack of knowledge, awareness of complications, negative emotions, symptoms of depression, stress, smoking, forgetting to take medication, social factors: low income, living with a large family, inadequate family support, living in urban areas, and health service factors: less than optimal patient-doctor interaction, large number of medications, uncontrolled hypertension, and drug availability. Efforts to improve adherence require a comprehensive approach through ongoing education, family support, effective communication with health workers, and guaranteed drug availability at service facilities.

Keywords: antihypertensive medication; hypertension; non-compliance

INTRODUCTION

Hypertension has become a pressing public health challenge. Hypertensive patients who are not properly treated are at risk of developing complications in various organs, including cardiovascular diseases such as coronary artery disease, angina pectoris, myocardial infarction, and non-hemorrhagic stroke (Israfil & Making, 2020), (Sarfo et al., 2018), (Kask-Flight et al., 2021). Pharmacological therapy is an essential cornerstone in hypertension management, proven effective in lowering blood pressure and reducing the risk of complications (WHO, 2021). Unfortunately, non-adherence to treatment in hypertensive patients remains a serious problem, contributing to the high rate of uncontrolled hypertension and complications in the community.

The World Health Organization (WHO) reports that an estimated 1.28 billion adults aged 30–79 worldwide live with hypertension. The main challenges faced are low patient awareness of hypertension, poor adherence to treatment regimens, and lifestyle changes that have made hypertension a leading cause of premature death worldwide (WHO, 2023). The prevalence of hypertension continues to increase, but compliance with medication and blood pressure control in hypertensive patients remains a challenge related to knowledge, attitudes, and practices regarding the consumption of antihypertensive drugs (Das et al., 2020).

Non-compliance is defined as failure to take medication as prescribed, including missed doses, irregular timing, early discontinuation, or complete refusal to take prescribed antihypertensive medication (Parra et al., 2019). Medication non-adherence is a global problem with serious consequences. Studies show that nearly half of hypertensive patients in the community do not take their medication as directed. This condition has serious implications, leading to uncontrolled blood pressure, a higher risk of cardiovascular events, increased healthcare costs, and a reduced quality of life. (Lee et al., 2022).

Various previous studies have been conducted, but they are still dominated by factors related to medication adherence. Research on factors related to non-adherence to medication is ongoing, and several studies have found that factors negatively impacting adherence include low socioeconomic status, inability to read written information about the disease, and never receiving information about the benefits of medication from healthcare professionals (Parra et al., 2019). Other research has found that non-adherence to hypertension medication is associated with three main factors: predisposing factors, including knowledge, beliefs and attitudes, personality traits, and culture and lifestyle. Enabling factors include access to healthcare services and facilities at home, work, and in the community. Reinforcing factors include internal patient incentives and support from family and healthcare professionals (Ashoorkhani et al., 2018).

A more comprehensive understanding of the various determinants associated with medication non-adherence in hypertensive patients is crucial to provide a basis for designing more effective community nursing interventions and strategies. This study aims to identify and summarize the results of recent research related to the determinants of medication non-adherence in hypertensive patients in the community.

METHOD

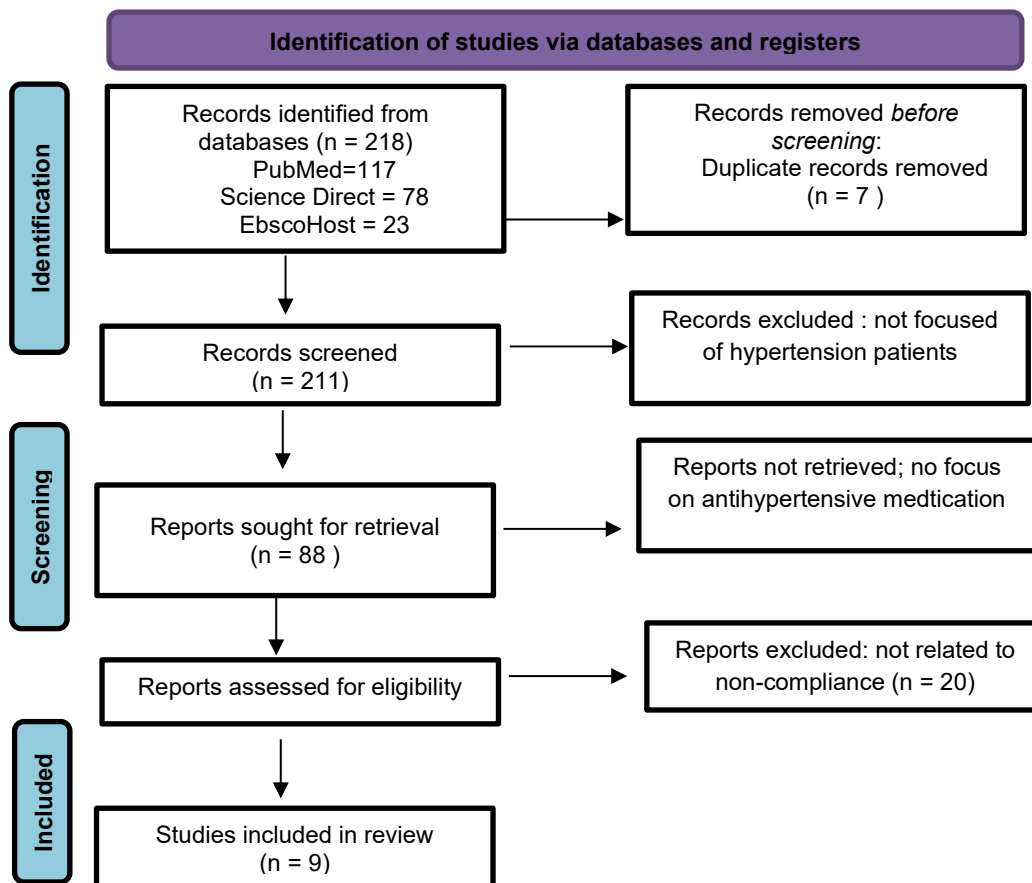


Figure 1. Prism diagram of article selection (Page et al., 2021)

This research was designed with a literature review approach (Libório et al., 2023) to identify and summarize various recent research results related to determinants of medication non-adherence in hypertensive patients in the community. Study question: what are the determinants of medication non-adherence in hypertensive patients in the community?. Topic coverage: various determinants related to medication non-adherence in hypertensive patients. Literature searches were conducted in the international databases PubMed, Science Direct, and EBSCOhost with the keywords “hypertension” AND “Antihypertensive Medication” AND “Non-compliance”. Literature selection by paying attention to inclusion criteria is carried out using the PEO approach (Capili, 2020). Population: hypertension patients, Exposure: various factors related to the use of hypertension medication, and Outcome: non-adherence to antihypertensive medication. Only research articles published between 2020 and 2025 were considered as literature. Article selection was carried out through the stages of identifying articles based on the database, screening based on the title, screening based on the abstract, and reading the full text. (Page et al., 2021). Data analysis was carried out descriptively through data extraction stages based on the researcher's name and year of research, country, research design and sample size, and research results.

RESULT

A total of nine research articles were selected as literature to address the objectives of this study. These nine studies involved diverse populations, ranging from 238 to 58,148 hypertensive patients, providing a broad overview of the factors influencing medication non-adherence in the community. The research findings also come from various countries, including Indonesia, (Alfian et al., 2022), (Kuntari & Soleman, 2025), Lebanon (Abbas et al., 2020), Taiwan (Shu-Mei et al., 2021), India (Sharma et al., 2022), Afghanistan (Stanikzai et al., 2023), Serbia (Nikolic et al., 2023), Morocco (Belayachi et al., 2024), and Eritrea-Africa (Welday et al., 2025) which reflects the diversity of cultures, health systems, and social contexts that strengthen the findings related to medication non-adherence in hypertensive patients in communities globally.

Table 1.

Various research results on determinants of non-compliance with medication in hypertension patients in the community

No	Researcher (Year)	Country	Research Design and Sample	Results
1	(Abbas et al., 2020)	Lebanon	Cross-sectional study design Sample: 1,497 hypertensive patients	Older patients, those living divorced/separated, widowed, obese, and those who smoke are more likely to exhibit non-adherence.
2	(Shu-Mei et al., 2021)	Taiwan	Cross-sectional study design Sample: 238 hypertensive patients	The most common medication non-adherence behavior was forgetting to take medication, followed by stopping treatment and reducing the dose. Age ≥ 65 years and male gender were associated with forgetting to take medication. The presence of comorbidities (diabetes, kidney disease, or both) and insomnia were associated with reducing the dose. Use of dietary supplements was associated with treatment discontinuation. Adherence to a low-fat, low-sugar, and low-sodium diet was a protective factor against treatment discontinuation.
3	(Alfian et al., 2022)	Indonesia	Multicenter cross-sectional study design Sample: 440 hypertensive patients	Treatment control, patient understanding of hypertension, and patient emotions are significantly related to treatment non-compliance..
4	(Sharma et al., 2022)	India	Cross-sectional study design Sample: 400 hypertensive patients	Nearly one-fifth of hypertension patients were found to be non-compliant with their medication. Predictors included duration of hypertension treatment and living in an extended family.
5	(Stanikzai et al., 2023)	Afghanistan	Cross-sectional study design Sample: 669 hypertensive patients	Factors associated with non-compliance with treatment in hypertension patients are below average monthly household income, comorbid medical conditions, lack of awareness about complications of hypertension, and the presence of depressive symptoms..

No	Researcher (Year)	Country	Research Design and Sample	Results
6	(Nikolic et al., 2023)	Serbia	Cross-sectional analytical design, Sample 388 hypertensive patients	Four independent predictors of medication non-adherence in hypertensive patients were found: increased number of medications, urban residence, forgetting the dosage regimen, and low energy. The likelihood of non-adherence was highest among participants living in urban areas.
7	(Belayachi et al., 2024)	Morocco	Cross-sectional survey design Sample: 922 hypertensive patients	Patients who do not adhere to taking hypertension medication are significantly associated with moderate stress, unsatisfactory family support, uncontrolled hypertension, the presence of depressive symptoms, inadequate patient-doctor interaction, and inadequate medical management of cardiovascular risk factors are associated with medication non-adherence.
8	(Welday et al., 2025)	Eritrea-Africa	Cross-sectional study design Sample: 317 hypertensive patients	Factors associated with treatment discontinuation, such as drug shortages at health facilities, have been found to be significantly associated with non-adherence. Health facilities must have adequate drug supplies.
9	(Kuntari & Soleman, 2025)	Indonesia	Cross-sectional study design, secondary data analysis. Sample: 58,148 hypertensive patients.	More than half of the 58,148 hypertension patients in Indonesia (53.9%) did not take their medication regularly. Chi-square analysis found that male gender, age group <64 years, high school graduate, employment, urban residence, smoking, having four family members, and a history of the disease were correlated with non-adherence to treatment.

Table 1 shows that non-adherence to medication in hypertensive patients in the community is associated with various factors such as older age > 65 years, productive age < 64 years, divorced/separated, widow/widower, obesity, presence of comorbid diseases, insomnia, use of food supplements or adherence to diet, understanding of hypertension, emotions, duration of hypertension, living with a large family, monthly household income below average, lack of awareness of complications, presence of depressive symptoms, number of medications, living in the city, forgetting the dosage regimen and low energy, moderate stress, unsatisfactory family support, uncontrolled hypertension, inadequate patient-doctor interaction, shortage of medications in health facilities, smoking, and living in urban areas.

DISCUSSION

The findings of this study found that non-adherence to antihypertensive medication in community-dwelling patients is not driven by a single factor, but rather by a complex interaction of sociodemographic, clinical, psychosocial, behavioral, and health system determinants. From a sociodemographic perspective, both older adults (>65 years) and those in the productive age group (<64 years) are associated with non-adherence. In older adults, non-adherence can be explained by cognitive decline, frailty, polypharmacy, and forgetfulness, which are well-documented barriers to adherence. In contrast, older adults and middle-aged adults often struggle with conflicting priorities such as work demands, financial pressures, and a lower perceived vulnerability to complications, which reduce their motivation to adhere to long-term therapy (Shu-Mei et al., 2021), (Kuntari & Soleman, 2025). Marital status also plays a role, with divorced, separated, and widowed individuals more likely to be non-compliant, likely due to a lack of emotional and social support that typically facilitates compliance (Abbas et al., 2020). Low household income further exacerbates the problem by limiting patients' ability to consistently afford medications or undergo follow-up care (Stanikzai et al., 2023). The study found that lower socioeconomic levels were more susceptible to uncontrolled hypertension in both urban and rural areas, while awareness, access to treatment, and success of hypertension control were higher in groups with better socioeconomic status (Mashuri et al., 2022)

Clinical factors such as obesity, comorbidities, insomnia, and longer duration of hypertension also contribute to poor adherence. Patients with multiple chronic conditions are often prescribed complex medication regimens, which increases pill burden and treatment-related fatigue (Stanikzai et al.,

2023). Insomnia and low energy can disrupt daily routines, making it more difficult to maintain a consistent medication schedule (Shu-Mei et al., 2021). Insomnia is closely linked to the occurrence of cardiovascular disease, which is a risk of dangerous complications in hypertension patients (Andersen et al., 2021). In addition, uncontrolled hypertension itself is associated with non-adherence which may reflect a bidirectional relationship in which poor adherence worsens blood pressure control and uncontrolled disease further discourages patients due to perceived ineffectiveness of treatment (Alfian et al., 2022).

Psychosocial and behavioral factors are equally significant. Depressive symptoms, emotional distress, moderate stress, and lack of awareness of hypertension complications are strongly associated with non-adherence (Belayachi et al., 2024). These findings are consistent with previous literature showing that mental health plays a significant role in chronic disease self-management. Inadequate family support and the challenges of living in an extended family can further undermine accountability and adherence (Sharma et al., 2022), (Belayachi et al., 2024), (Kuntari & Soleman, 2025). Low blood pressure control in hypertensive patients is closely related to poor adherence to self-care activities, including taking medication as directed. Family-based interventions that encourage adherence to healthy behaviors can have a significant impact on improving hypertension control in the community (Israfil et al., 2018), (Chacko & Jeemon, 2020). Smoking is an unhealthy lifestyle choice and is also associated with decreased compliance (Abbas et al., 2020). Smoking is also associated with increased blood pressure and uncontrolled hypertension (Akbarpour et al., 2019).

Behavioral factors are associated with misconceptions about therapy. Patients stop taking their medication because they believe their blood pressure is normal and therefore no longer needs to be continued, even though guidelines emphasize that antihypertensive medications should generally be used long-term, even lifelong. Furthermore, patients' knowledge of the consequences of untreated hypertension remains low (Sudharsanan et al., 2021). Patients' misunderstandings about hypertension, such as understanding that medication should be stopped if blood pressure is normal or a lack of understanding of the risks of hypertension complications, are factors that cause non-compliance with medication in hypertensive patients (Alfian et al., 2022). Patient knowledge can influence attitudes and practices regarding blood pressure management in hypertensive patients, including medication-taking behavior. Low knowledge about hypertension is associated with low education levels and strong belief in herbal and traditional medicine (Chimberengwa & Naidoo, 2019). In line with these findings, related studies have found that the behavior of hypertensive patients in preventing cardiovascular complications is influenced by culture, encompassing three main factors: maintaining a culture perceived as beneficial by the patient, influenced by individual and cultural factors; negotiating between nurses and patients regarding perceived barriers by the patient, influenced by patient, cultural, and healthcare factors; and restructuring related to perceived disease severity and patient self-efficacy, influenced by individual and cultural factors (Israfil et al., 2025).

Health system factors emerge as external barriers to medication non-adherence in hypertensive patients. Inadequate patient-physician interactions reduce opportunities for counseling, shared decision-making, and trust-building, all known to promote adherence. (Belayachi et al., 2024). The shortage of antihypertensive drugs in health facilities reduces patient confidence in the health system and disrupts continuity of treatment. (Welday et al., 2025). Limited availability of antihypertensive drugs in health facilities contributes to worsening the quality of services and has an impact on poor outcomes of hypertension care in the community. (Chimberengwa & Naidoo, 2019). Urban residence is also associated with non-compliance which is related to busyness, higher stress levels, lifestyle changes, and less social support networks compared to social support in rural communities (Nikolic et al., 2023), (Kuntari & Soleman, 2025). The role of community nurses is very important in the management of good health care services so that they can improve patient compliance with treatment, healthy behavior and control of hypertension in the community (Israfil & Making, 2019), (Mattei da Silva et al., 2020). The existence of primary healthcare facilities can play a crucial role in encouraging health-management behaviors, medication adherence, and healthy lifestyle choices among people

with hypertension. Although the implementation of these behaviors is not yet optimal, the availability of good primary healthcare facilities can be a first step towards improving the management and prevention of hypertension complications at the community level (Israfil et al., 2024). Furthermore, recent advances in hypertension management have highlighted several key aspects, including the growing use of digital technology to monitor medication adherence in hypertensive patients, despite still facing challenges in measuring instrument validation, data security, and clinical interactions (Verdecchia et al., 2022).

Overall, the results of this study found and emphasized that non-adherence is a multifactorial phenomenon influenced by individual factors, both physical and psychological, family social support, and healthcare facilities. Interventions to improve adherence must adopt a comprehensive approach. At the patient level, targeted education and simplified medication regimens can improve understanding and reduce the burden of taking medications. At the family and community levels, strengthening social support systems and addressing patients' psychological well-being are crucial. At the health system level, improving therapeutic patient-provider communication, ensuring the availability of medication supplies, and tailoring adherence interventions to urban patient populations are important strategies that must be considered.

Practice Implications

These findings confirm that medication non-adherence in hypertensive patients is influenced by individual, family, and healthcare system factors. Therefore, community nurses need to develop ongoing health education, improve therapeutic communication, strengthen family support in monitoring medication regimens, and ensure the availability of medications at healthcare facilities to facilitate patient access. This holistic approach based on empowerment and social support is crucial in improving adherence and preventing hypertension complications at the community level.

CONCLUSION

This study concluded that medication non-adherence in hypertensive patients in the community is influenced by various interacting factors. Individual factors include older or productive age, marital status, low income, obesity, comorbidities, insomnia; psychological and behavioral factors include lack of understanding, low awareness of complications, depression, stress, negative emotions, forgetting to take medication, smoking; social factors include inadequate family support, living with an extended family, living in an urban area; and health service factors include inadequate patient-doctor interaction and inconsistent medication availability, contributing to non-adherence. Improving medication adherence in hypertensive patients in the community requires continuous health promotion, strong family support, and effective communication between health workers and patients. Community nursing interventions that focus on patient empowerment, strengthening social support, attention to psychosocial aspects, and guaranteed medication availability in health facilities will increase trust and ease of access, thereby minimizing non-adherence.

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