



Systematic Review: Factors Affecting Compliance with Antihypertensive Medication Consumption among the Elderly in Primary Health Care Facilities

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Keywords:

Hypertension; Elderly Medication Adherence; Primary Health Care Facilities

ABSTRACT

Hypertension is a non-communicable disease often referred to as a "silent killer" as it typically presents no symptoms until serious complications arise. Elderly individuals, being a vulnerable population, require consistent and long-term medication; however, adherence to antihypertensive treatment remains a significant challenge in primary health care facilities. This systematic review aims to analyse the factors influencing medication adherence among the elderly based on quantitative studies conducted in Indonesia between 2020 and 2025. A literature search was conducted using Google Scholar with relevant keywords. From a total of 1,103 articles, 10 studies were selected by the PRISMA guidelines. Findings indicated that adherence rates ranged from 50% to 75%. The main influencing factors included the level of patient knowledge, family support, the role of health care providers, and intervention programs such as counselling and Prolanis (a chronic disease management program). In conclusion, improving medication adherence among the elderly requires targeted health education, family empowerment, and active engagement of health professionals within primary care settings.

INTRODUCTION

Hypertension is a chronic condition that requires long-term treatment to reduce the risk of complications such as stroke and heart disease (Dzau & Hodgkinson, 2024). It has become a major global public health issue, with its prevalence continuing to rise and contributing significantly to the high mortality rates from cardiovascular diseases (Zhang et al., 2024). In Indonesia, hypertension affects more than 63 million people, yet only a small proportion receive regular treatment (Ministry of Health of the Republic of Indonesia, 2019). Medication adherence among the elderly remains a persistent challenge in primary health care facilities (PHCFs) (Heflin et al., 2022).

In 2019, there were approximately 51.3 million hypertension cases in Indonesia among individuals aged 30–79 years, but only 4% of these cases were under control (WHO, 2023). Hypertension is often referred to as a "silent killer" because most patients are unaware they have the condition until their

blood pressure is measured (Pokharel et al., 2022). Moreover, individuals with hypertension typically do not experience symptoms until complications occur (Litwin & Kułaga, 2021).

Amid the ongoing demographic transition toward an ageing population, the number of elderly individuals living with hypertension has increased significantly (Egan et al., 2024). This trend is placing growing demands on the health care system, particularly at the primary level, to provide effective interventions that ensure patient adherence to medication therapy. However, previous studies have shown that over 30% of elderly patients do not take their medication regularly, citing reasons such as feeling healthy, forgetting, or lack of family support (Arini et al., 2024; Dewi et al., 2022; Anjarsari et al., 2023).

Adherence is frequently a challenge for patients with chronic diseases, especially those requiring long-term medication and lifestyle modifications (Fernandez et al., 2019). Non-adherence to treatment regimens can potentially increase morbidity, mortality, and overall health care costs (Rachmawati et al., 2024). For patients with chronic conditions like hypertension, medication adherence is crucial, as regular consumption helps control blood pressure and reduces the risk of organ damage due to elevated blood pressure (Ojangba et al., 2023). A study in China shows that hierarchical regression analyses revealed that the predisposing (knowledge, delay discounting, and self-efficacy), reinforcing, and enabling factors were significantly associated with treatment adherence (Hu et al., 2025).

Numerous factors can influence medication adherence, including educational level, knowledge, and motivation, which were significantly associated with adherence among patients with hypertension (Burnier & Egan, 2019). Similarly, research in 2019 indicated that education had a significant impact on adherence, whereas factors such as gender, age, occupation, duration of therapy, type of antihypertensive medication, and the number of medicines taken did not show a significant association with adherence (Arrang et al., 2023). Factors were significantly associated with higher adherence rates, including older age ($p = 0.03$), higher education ($p = 0.03$), regular blood pressure monitoring ($p = 0.03$), and knowledge about their medications ($p = 0.02$) (Farah et al., 2024).

Given the critical role of primary health care facilities (PHCFs) as the frontline in elderly care, a comprehensive understanding of the factors influencing patient adherence to hypertension treatment is essential (Song et al., 2024). This review was conducted to address this need through a systematic synthesis of the literature. Based on this background, the present systematic review aims to analyse the factors that influence medication adherence among elderly patients taking antihypertensive drugs, based on quantitative studies published between 2020 and 2025.

METHOD

This review was conducted using a systematic review approach, following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Page et al., 2021). Literature searches were performed using the Google Scholar database with the keywords: “medication adherence”, “hypertension”, “primary health care”, and “Indonesia”. Only quantitative studies published within the last five years were included. The inclusion criteria consisted of studies that examined factors influencing medication adherence among hypertensive patients in primary health care settings in Indonesia.

- Inclusion: Observational or interventional studies; respondents aged over 60 years (elderly); studies focusing on adherence to antihypertensive medication; conducted in primary health care facilities.
- Exclusion: Studies involving non-elderly populations; studies that did not explicitly discuss adherence factors; or studies conducted in tertiary hospital settings.

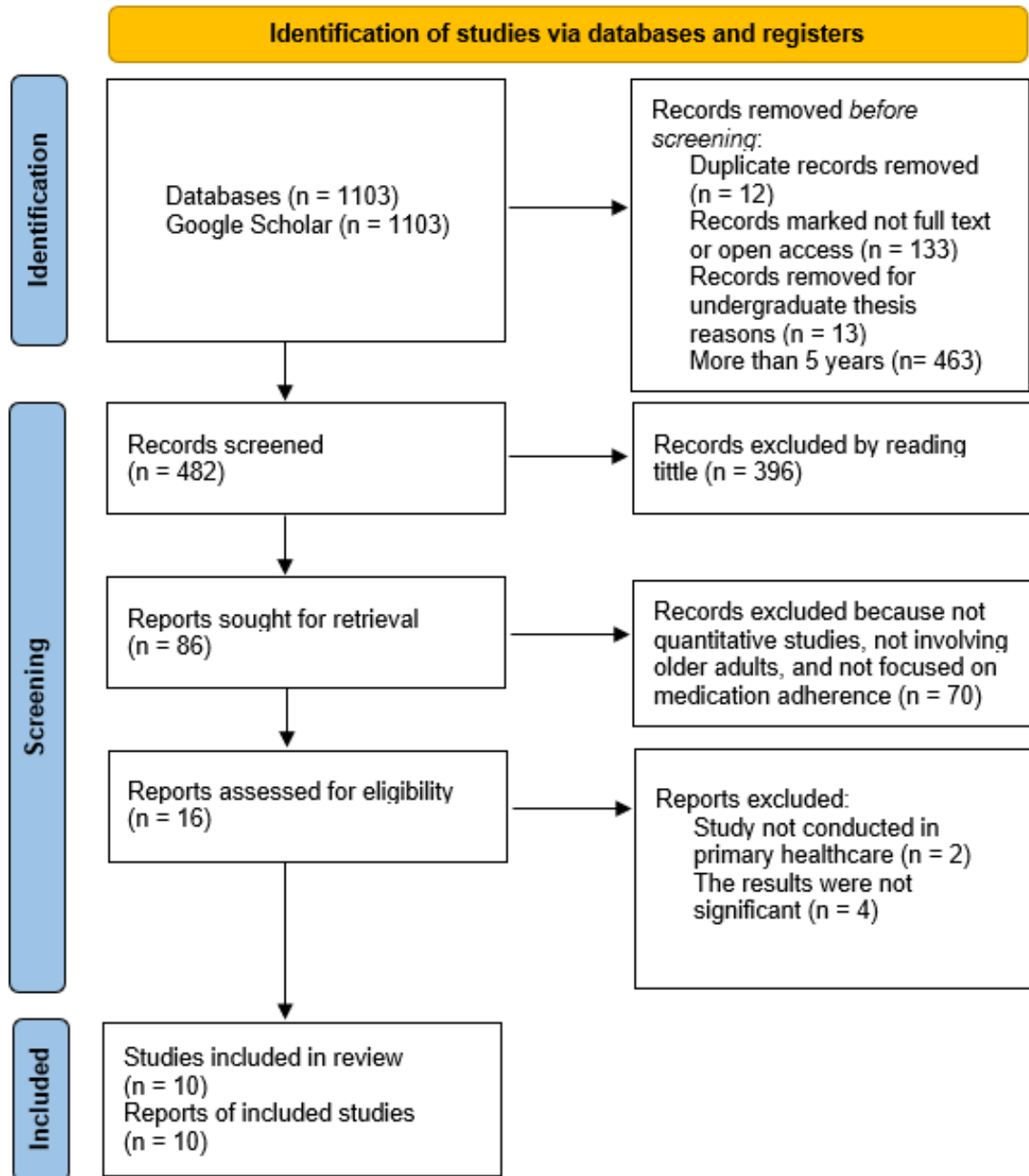


Fig. 1 Flow Diagram of the Review Process

Of the 16 articles that passed the eligibility screening, all were then read in full. After a thorough review, two articles were excluded because they were not conducted in community health centres (Puskemas), and three articles were excluded due to having non-significant results. As a result, 10 articles remained and met the criteria for inclusion in the review (Fig. 1).

RESULTS AND DISCUSSION

The data extraction results obtained from several articles that have undergone a systematic selection process are then compiled and presented in detail in Table 1 to provide a clearer overview of the relevant findings from each article.

Table 1
Characteristics of Included Studies

Author	Studi Design	Data Sampling Technique	Phenomena	Participant	Data Analyze
(Arini et al., 2024)	Quantitative cross-sectional	Questionnaire (MMAS-8)	The relationship between knowledge and adherence	Older adults with hypertension	Chi-Square test
(Dewi et al., 2022)	Quantitative cross-sectional	Purposive sampling	Family support and adherence	80 older adults in Denpasar	Spearman Rho test
(Siswati et al., 2023)	Explanatory quantitative	Purposive sampling	The role of healthcare professionals	54 older adults in Jombang	Chi-Square test
(Sasih et al., 2023)	Quantitative cross-sectional	Total sampling	Knowledge, the role of healthcare professionals, and family support	120 older adults in Kintamani	Pearson correlation test
(Agustina et al., 2023)	Systematic review	Literature (5 databases)	Effectiveness of health education	Older adults with hypertension	Thematic narrative analysis
(Anjarsari et al., 2023)	Descriptive qualitative	Accidental sampling	Adherence and quality of life	83 patients with hypertension	Deskriptive analyze
(Nainggolan et al., 2024)	Pre-post experimental	Purposive sampling	The impact of medication counselling	53 patients at H. Adam Malik Hospital	Wilcoxon test
(Gustina et al., 2025)	Quantitative cross-sectional	Purposive sampling	Dominant factors influencing adherence	67 older adults in Muara Enim	Chi-Square test and Logistic Regression test
(Roza & Magriasti, 2020)	Descriptive qualitative	In-depth interview	Effectiveness of elderly health posts (Posyandu Lansia)	Community leaders and health workers	Triangulation and thematic analysis
(Sasmita et al., 2021)	Quantitative cross-sectional	Purposive sampling	Family support and patient adherence	67 older adults in Rejosari	Chi-Square test

From the review of 10 studies that met the inclusion criteria (Table 1), several key aspects were identified regarding medication adherence among hypertensive elderly patients in Indonesia:

1. Adherence Rates Among the Elderly

- In a study by Gustina et al. (2025), it was found that 58.7% of elderly patients at Muara Enim Primary Health Centre adhered to their antihypertensive therapy.
- Anjarsari et al. (2023) reported a 74% adherence rate among participants of the *Prolanis* program.
- Geleta et al. (2025) showed that two hundred ninety-two (70.4%) of people with hypertension reported perceived strong family support. A study conducted in Jember also showed a correlation between caregivers' behaviours ($P=0.005$) and patients' medication adherence (Susanto et al., 2024)
- Sasmita et al. (2021) showed that patients' adherence to taking antihypertensive medication has a significant effect on their quality of life.

2. Factors Influencing Adherence

- Knowledge Level:

A significant correlation was found between knowledge and adherence (Arini et al., 2024; Sasih et al., 2023). Patients with a greater understanding of hypertension and its treatment

showed higher adherence rates. Knowledge about hypertension is crucial for treatment adherence, especially among older adults who often have limited understanding of the condition (Hu et al., 2025).

- Family Support:

Elderly patients with family support demonstrated 20–30% higher adherence compared to those without (Agustina et al., 2023). The research in Ethiopia shows that 52% of hypertension patients had good levels of self-care practices (Abdisa et al., 2022).

- Educational Level:

Siswati et al. (2023) found that elderly individuals with secondary or higher education had a 75% adherence rate, compared to 50% among those with lower education.

- Health Education:

Observed an increase in adherence from 48% to 72% after three months of health education. Methods such as face-to-face sessions, phone counselling, community health worker involvement, and both individual and group education were effective (Agustina et al., 2023; Nainggolan et al., 2024).

- Role of Health Workers:

Sasih et al. (2023) and Gustina et al. (2024) emphasised the importance of regular interaction, effective communication, and counselling. Andi Wijaya (2020) noted 68% adherence among those receiving regular counselling, versus 40% among those who did not. Anjarsari et al. (2023) reported a 74% adherence rate among *Prolanis* participants, compared to 50% among non-participants.

Knowledge significantly affects medication adherence. Arini et al. (2024) showed that higher knowledge correlates strongly with better adherence ($p = 0.000$). At Kintamani V Health Centre, a strong correlation was found ($r = 0.752$; $p < 0.001$). However, this was not consistent across all settings. Muara Enim, for instance, showed no significant association ($p = 0.655$), despite patients generally understanding the benefits and side effects of antihypertensive medication.

Family involvement is a critical determinant. In Denpasar, 75% of elderly patients with good family support were categorised as adherent ($p < 0.05$). Support provides motivation and emotional reinforcement. However, Muara Enim's study found no significant relationship ($p = 0.655$), suggesting that the form and consistency of support matter.

Health professionals such as doctors, nurses, and pharmacists play a pivotal role. In Muara Enim, health worker engagement was the most dominant adherence factor, with an Odds Ratio of 22.339, indicating that patients receiving quality care were 22 times more likely to adhere. In Kintamani V, a significant correlation was also observed ($r = 0.592$; $p < 0.001$). Health workers provided not only information but also emotional and motivational support.

Educational efforts and pharmaceutical counselling are highly effective. At H. Adam Malik General Hospital, counselling shifted 34% of patients from low to high adherence. Tailoring education to the patient's educational background and using appropriate delivery methods enhances impact.

Participation in the *Prolanis* chronic disease management program significantly improved adherence. Anjarsari et al. (2022) found that 74% of *Prolanis* participants adhered, compared to only 50% among non-participants. Understanding the program and engaging in regular activities were key success factors.

CONCLUSIONS

This systematic review revealed that medication adherence among elderly hypertensive patients in Indonesian primary health care facilities ranged between 50% and 75%, indicating a serious challenge requiring multifaceted interventions. Key contributing factors include knowledge, family support,

education level, health education, and counselling by health care professionals. To optimise adherence, the following strategies are recommended: Strengthen Elderly Health Education at PHCFs, Engage Families in Treatment Management, Enhance the Role of Non-Medical Health Workers (e.g., Community Cadres/Counselors), Expand and Adapt the Prolanis Program, and Utilise Technology (m-Health and Digital Reminders).

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