

Self-Care in Hypertension Management: Qualitative Insights into Patient Practices and Challenges

Qualitative Perspectives on Hypertension Self-Care

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ABSTRACT

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Hypertension is a leading global health burden, affecting over a billion adults, yet fewer than a quarter achieve adequate control. In Indonesia, hypertension is a major contributor to cardiovascular morbidity and mortality. Patients often struggle with sustained self-care. This study explored self-care practices and barriers to hypertension management among patients, caregivers, and nurses in a primary healthcare in Bandung. A qualitative phenomenological approach was used. Twenty participants were purposively recruited, comprising seven patients, seven family members, and six nurses. Data were collected through semi-structured interviews, transcribed verbatim, and analyzed using Colaizzi's method. Trustworthiness was ensured through credibility, dependability, confirmability, and transferability criteria. Two themes emerged. Self-care practices included medication adherence, dietary modification, physical activity, stress management, blood pressure monitoring, and smoking cessation, though these were inconsistent. Barriers included cultural dietary norms, misconceptions about medication, limited knowledge and motivation, financial constraints, and fear of complications. Hypertension self-care in Indonesia is shaped by complex cultural, social, and economic challenges. Culturally sensitive, family-centered, and nurse-led interventions are needed to strengthen self-care and improve outcomes.

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Introduction

Hypertension remains a major global public health challenge. According to the World Health Organization, more than one quarter of the world's population was affected in 2018, with an estimated 1.28 billion people aged 30–70 years living with the condition. Alarming, only 21% of individuals with hypertension achieve adequate control [1]. Beyond its high prevalence, hypertension is one of the leading contributors to cardiovascular morbidity and mortality worldwide.

In Indonesia, hypertension exerts a profound impact on both individual and public health. National data show that hypertension contributes to 45% of deaths from heart disease and 51% of deaths from stroke [2]. Between 2013 and 2018, the incidence of stroke increased by 3.8%, reflecting the escalating burden of uncontrolled hypertension [3]. These figures highlight an urgent need for effective hypertension management strategies that can mitigate both clinical and economic consequences.

Effective hypertension management requires consistent engagement in self-care practices, including medication adherence, dietary sodium restriction, regular physical activity, weight management, tobacco and alcohol avoidance, stress reduction, and routine blood pressure monitoring [4,5]. Evidence demonstrates that these practices improve treatment adherence, reduce complications, and decrease mortality [6,7]. However, many patients struggle to sustain such practices. In Bandung City, nearly half of individuals with hypertension report poor self-care management [8], which is strongly associated with higher complication rates, reduced quality of life, and increased medical costs [9]. Barriers to self-care are multidimensional, including limited knowledge, low motivation, inadequate health behaviors, and insufficient self-care skills [10].

Community-based programs, such as the *Posbindu* (Integrated Non-Communicable Disease Post), have been introduced to promote hypertension prevention and management. *Posbindu* provides early detection, risk factor monitoring, and health education at the community level, supported by cross-sectoral partnerships [11]. Despite this framework, recent observations indicate that health education in these settings is often fragmented, lacks systematic structure, and is not sufficiently tailored to patients' cultural and social realities. This gap reduces the effectiveness of interventions and undermines patient outcomes.

To date, most research on hypertension self-care in Indonesia has been quantitative, focusing primarily on patients' adherence levels and associated factors [12,13]. Qualitative

evidence remains scarce, particularly studies that integrate the perspectives of patients, family caregivers, and nurses. Given that self-care behaviors are shaped by social support and professional guidance, the absence of this holistic perspective limits understanding of the lived experiences and challenges faced by hypertensive patients in Indonesia.

Therefore, this study aimed to explore self-care practices and barriers to hypertension management in a primary healthcare setting in Bandung, Indonesia, by incorporating the perspectives of patients, families, and nurses. By capturing these diverse voices, this study seeks to generate contextually grounded insights to inform the design of culturally responsive, nurse-led interventions for improving hypertension self-care.

Material and Methods

A qualitative phenomenological approach was adopted to explore the lived experiences of hypertensive patients, their family caregivers, and nurses in managing hypertension. The study was conducted at a primary healthcare center (*Puskesmas*) in Bandung City, Indonesia, which provides hypertension management and community-based non-communicable disease (NCD) programs. This setting was selected because it reflects the frontline of hypertension care and patient education in the Indonesian healthcare system.

Twenty participants were recruited using purposive sampling, consisting of seven hypertensive patients, seven family members, and six nurses. The inclusion criteria were: (1) for patients, a confirmed hypertension diagnosis for at least one year; (2) for family members, at least one year of caregiving experience for a relative with hypertension; and (3) for nurses, at least one year of involvement in hypertension or NCD program management. All participants were required to be willing to participate and able to provide detailed narratives of their experiences. Demographic data were collected to provide context for interpretation, including age, gender, education, occupation, duration of hypertension, and caregiving or professional experience. The sample size of 20 participants aligns with phenomenological research recommendations, which prioritize depth of lived experience over numerical representation, and was deemed sufficient once experiential saturation was achieved across all participant categories. Sample size adequacy was guided by the principle of data saturation, defined as the point at which no new themes, dimensions, or variations emerged across consecutive interviews. Saturation was assessed separately and comparatively across patient, family, and nurse groups.

Data were gathered between June to August 2021 using semi-structured, in-depth interviews. Guiding questions explored participants' experiences with hypertension self-care. For example, patients were asked: *"Can you describe your experience in managing self-care after being diagnosed with hypertension?"*; nurses: *"From your perspective, how do you see the implementation of self-care management among hypertensive patients you manage?"*; and family

members: *"What are your experiences in supporting the self-care of your relative with hypertension?"* Interviews were audio-recorded with consent, conducted in Bahasa Indonesia, and transcribed verbatim. Data analysis was conducted using the original Bahasa Indonesia transcripts to preserve semantic and cultural meaning. Selected illustrative quotations were subsequently translated into English for manuscript preparation by the first author, who is bilingual in Bahasa Indonesia and English, and independently reviewed by the second author to ensure conceptual equivalence rather than literal translation.

All interviews were conducted by the first author, a registered nurse with training in qualitative research and more than ten years of experience in community and public health nursing. Prior to data collection, the interviewer received formal training in phenomenological interviewing, reflexive bracketing, and ethical qualitative inquiry. Reflexive field notes were maintained after each interview to document interviewer assumptions and minimize undue influence on participants' narratives. Field notes were used to capture contextual details and non-verbal expressions.

Data were analyzed using Colaizzi's phenomenological method [14]. This involved reading transcripts repeatedly, extracting significant statements, formulating meanings, clustering themes, and integrating the results into an exhaustive description of participants' experiences. The process was iterative and involved constant comparison across cases. Initial coding was conducted independently by the first author using Colaizzi's method. Codes were then reviewed and discussed with the second author, an experienced qualitative researcher. Discrepancies were resolved through analytic discussion and consensus. Manual coding was employed to maintain immersion in the data; no qualitative software was used. Saturation was considered achieved when iterative analysis of three consecutive interviews within each participant group yielded no new codes or thematic insights, indicating thematic redundancy and conceptual completeness.

To ensure rigor, the study applied Lincoln and Guba's criteria of trustworthiness: credibility, dependability, confirmability, and transferability [15]. Credibility was achieved through member checking, where participants verified transcript accuracy. Dependability and confirmability were supported by external auditing from a qualitative research expert. Transferability was enhanced by providing rich, thick descriptions of the study context and participants. Reflexivity was maintained through continuous researcher self-reflection to minimize bias.

Ethical approval was obtained from the Research Ethics Commission of MAHSA University, Malaysia (Approval No: Mahsa/Nur/PHD/C44(01)), as part of a doctoral research, with the ethics committee recognizing cross-border research in accordance with international ethical guidelines. Local administrative permission was also obtained from the participating

primary healthcare center in Bandung. Written informed consent was obtained from all participants. Confidentiality and anonymity were preserved by assigning codes instead of personal identifiers and securely storing all data. Participants were informed of their right to withdraw at any stage without consequence.

Results

A. Participant Characteristics

This study involved 20 participants, including seven hypertensive patients, seven family members, and six nurses. Patients ranged in age from 34 to 70 years (mean = 54 years, SD = 12.23), with educational attainment spanning primary to high school and occupations including housewives, retirees, and self-employed workers. The majority were of Sundanese descent, and the duration of hypertension ranged from two to twelve years. Although the majority of participants identified as Sundanese, this reflects the demographic composition of Bandung and similar urban areas in West Java. Findings are therefore transferable to comparable cultural and healthcare contexts rather than statistically generalizable.

Participants represented diverse ages, roles, caregiving responsibilities, and professional experiences, enabling convergence and divergence of perspectives across patients, family caregivers, and nurses. This triangulation strengthened interpretive depth and enhanced transferability to similar primary healthcare contexts. Family caregivers were predominantly female, aged 33–53 years, and mainly the patients' children. Nurses varied in gender, education, and length of professional experience in managing hypertension and NCD programs. These diverse backgrounds provided rich perspectives on hypertension self-care.

B. Themes and Sub-themes

Thematic analysis revealed two overarching themes: self-care practices and barriers to self-care practices. Together, they capture the complexity of hypertension management in daily life (Table 1).

Table 1. Themes, Sub-themes, and Illustrative Quotes

Themes	Sub-themes	Illustrative Quotes
Self-Care Practices	Medication adherence	<i>"I only take the medicine when I feel dizzy. If I feel normal, I stop because I'm afraid of becoming dependent on pills"</i> (Patient P3, 54 years).
	Dietary modification	<i>"In Sundanese meals, crackers and salted fish are always there. Without them, the food feels tasteless, even though I know it's not healthy"</i> (Patient P1, 47 years).
	Physical activity	<i>"I rarely exercise. Sweeping and cooking already make me tired, so I think that is enough"</i> (Patient P5, 52 years).
	Blood pressure monitoring	<i>"I check my blood pressure only when my head feels heavy. I don't check it regularly"</i> (Patient P6, 59 years)
	Stress management	<i>"When I feel stressed, I pray or talk with friends. It helps me calm down"</i> (Patient P4, 41 years)

Themes	Sub-themes	Illustrative Quotes
	Smoking behavior	<i>"I know smoking is bad, but it's very hard to stop. I try to reduce it, but I haven't quit completely"</i> (Patient P7, 52 years).
Barriers to Self-Care Practices	Cultural dietary habits	<i>"Meals without salted fish and sambal feel incomplete. It's very difficult to change eating habits at home"</i> (Family member F4, 45 years)
	Misconceptions about treatment	<i>"My father believes taking medicine every day will damage his kidneys, so he refuses unless he feels sick"</i> (Family member F2, 38 years).
	Limited knowledge and motivation	<i>"I don't really know which foods are healthy. I just eat what is available and affordable"</i> (Patient P2, 39 years).
	Financial constraints	<i>"Healthy foods and fruits are expensive. We want to follow advice, but money is limited"</i> (Patient P2, 61 years).
	Fear & uncertainty	<i>"I fear sudden stroke, but don't know what else to do"</i> (Patient P2, 67 years).

1. Self-Care Practices

Participants described multiple hypertension self-care practices; however, these behaviors were often inconsistent and situational. Medication adherence varied: while some patients reported regular use of prescribed drugs, others discontinued treatment when asymptomatic or combined it with herbal remedies. One patient noted, *"I only take the medicine when I feel dizzy. If I feel fine, I stop because I don't want to depend on it"* (Patient, 54 years). A caregiver added, *"Sometimes my father uses traditional herbs together with the pills from the clinic"* (Family member, 38 years).

Dietary modification was another challenge. Many found it difficult to limit salt intake, reflecting strong cultural norms. As one patient expressed, *"In Sundanese meals, crackers and salted fish are always there. It feels incomplete without them"* (Patient, 47 years). Physical activity was also limited; while some participants engaged in walking, others relied on daily household chores as substitutes. *"I rarely exercise. Sweeping and cooking are already tiring, so I think that is enough"* (Patient, 62 years).

Blood pressure monitoring tended to be reactive rather than preventive, with patients checking their blood pressure only when symptoms appeared. *"I check my blood pressure only when I feel my head is heavy, not regularly"* (Patient, 59 years). Stress management strategies included prayer, socializing, and leisure activities such as shopping or picnics. *"When I feel stressed, I pray or talk with friends. It helps me calm down"* (Patient, 41 years). Smoking behavior remained a persistent issue. While several participants had quit smoking, others continued despite health advice. *"I know smoking is bad, but it's very hard to stop. I reduce it, but not quit completely"* (Patient, 52 years).

2. Barriers to Self-Care

Barriers to effective self-care reflected intertwined cultural, psychosocial, and economic constraints. Cultural dietary habits were particularly influential. As one family

member explained, *"In our culture, meals without salty fish and sambal feel tasteless. It's very hard to follow the doctor's advice"* (Family member, 45 years). Misconceptions about treatment also hindered adherence, with some fearing long-term side effects. *"My husband believes taking medicine every day will damage his kidneys, so he only takes it when needed"* (Family member, 50 years).

Knowledge and motivation gaps limited patients' capacity for sustained lifestyle changes. *"I don't know what foods are truly healthy. Sometimes I just eat whatever is cheap"* (Patient, 39 years). Financial constraints compounded these difficulties, especially in relation to fruit and healthier food options. *"Fruits are too expensive, so we cannot buy them every day"* (Patient, 61 years). Emotional factors also played a role, with patients expressing fear and uncertainty about their prognosis. *"I'm scared that my blood pressure will suddenly go up and cause a stroke, but I don't know what else to do"* (Patient, 67 years).

Discussion

This study explored hypertension self-care practices and barriers from the perspectives of patients, family members, and nurses in a primary healthcare setting in Bandung, Indonesia. The findings revealed that while patients engaged in medication use, dietary modification, physical activity, stress management, blood pressure monitoring, and smoking reduction, these practices were inconsistent, fragmented, and heavily shaped by cultural, social, and economic influences. The barriers identified, including cultural dietary habits, misconceptions about medication, limited knowledge and motivation, financial constraints, and fear of complications, demonstrate the complexity of sustaining effective self-care in daily life.

Medication adherence emerged as a major challenge. Although some participants followed prescribed regimens, many reported stopping medication when symptoms subsided or combining it with herbal remedies. This behavior echoes evidence from Indonesia and other Asian contexts where non-adherence is strongly associated with reliance on traditional medicine, financial constraints, forgetfulness, and concerns over side effects [16–18]. Such patterns undermine blood pressure control and heighten the risk of complications. Addressing these misconceptions through education and counselling is therefore critical.

Cultural influences strongly shaped dietary behavior. Participants consistently reported difficulty in reducing salt intake, citing Sundanese food traditions that prioritize salted fish, crackers, and soy sauce. Similar findings have been documented in other regions of Indonesia and globally, where cultural dietary norms present significant barriers to sodium restriction [19,20]. These insights highlight the need for culturally sensitive interventions that respect local food traditions while promoting healthier alternatives.

Physical activity was another area where misperceptions persisted. Several participants equated household chores with sufficient exercise, reflecting a limited understanding of recommended activity levels. International guidelines confirm that moderate exercise three to five times weekly significantly improves hypertension outcomes [21,22], suggesting that nursing interventions should focus on clarifying misconceptions and offering feasible, context-appropriate strategies for increasing physical activity.

Stress management practices, such as prayer, social engagement, and recreation, were described as important coping mechanisms. These findings align with studies emphasizing the psychosocial and spiritual dimensions of chronic disease management [23]. However, blood pressure monitoring remained irregular and often symptom-driven. This contrasts with strong evidence that structured self-monitoring, combined with professional support, leads to improved control and better outcomes [24–26]. Similarly, smoking behavior persisted among some participants, despite its known contribution to hypertension and cardiovascular risk [27].

The barriers identified in this study resonate with international literature but also reflect context-specific challenges. Misconceptions about long-term medication safety were particularly prominent, with some participants fearing kidney damage from daily antihypertensive use. Comparable findings were reported in Nepal, where perceived side effects were the strongest predictor of poor adherence [28]. Limited knowledge and motivation further undermined patients' ability to sustain lifestyle changes, consistent with evidence that low health literacy is a major determinant of poor self-care in hypertension [10,29]. Financial constraints compounded these issues, particularly in restricting access to fruits and healthier foods, echoing studies from other low- and middle-income countries where affordability significantly shapes dietary practices [30,31]. These findings suggest that interventions must address not only individual behaviors but also broader socioeconomic conditions.

A key contribution of this study is the integration of multiple perspectives, patients, family caregivers, and nurses, rather than focusing solely on patients. This triangulation offers a more holistic understanding of hypertension self-care and highlights the interdependent roles of family support and professional guidance. In collectivist societies such as Indonesia, family involvement is crucial for adherence and lifestyle modification. By capturing cultural, social, and spiritual aspects alongside biomedical practices, this study extends global discussions on hypertension self-care and underscores the importance of multidimensional, context-sensitive interventions.

Conclusion

This study explored self-care practices and barriers to hypertension management from the perspectives of patients, families, and nurses in Bandung, Indonesia. While patients engaged in medication use, diet modification, activity, stress management, and blood pressure monitoring, these practices were inconsistent and constrained by cultural habits, misconceptions, limited knowledge, financial challenges, and fear of complications. Although limited to a single urban site, the study highlights the need for culturally sensitive, family-centered, and nurse-led interventions to strengthen hypertension self-care. These findings provide direction for nursing practice, education, and policy to enhance community-based hypertension management in Indonesia and comparable settings.

Limitation and Suggestions

This study has several limitations. Data were collected from a single primary healthcare center in an urban setting, which may limit transferability to rural areas or other regions of Indonesia. The sample size was relatively small, though appropriate for phenomenological inquiry, and relied on self-reported accounts that may be influenced by recall or social desirability bias. Nevertheless, the triangulation of perspectives from patients, families, and nurses strengthens the credibility of the findings and provides valuable insights for future research. Expanding to multi-site and mixed-method studies could enrich understanding and enhance generalizability.

These findings highlight the need for nurses to deliver culturally sensitive education that directly addresses misconceptions about medication, promotes dietary and lifestyle changes aligned with local traditions, and incorporates family members as active partners in care. Training programs for nurses should emphasize skills in cultural competence, motivational interviewing, and psychosocial support, equipping them to address both biomedical and spiritual dimensions of care. At the policy level, strengthening community-based initiatives such as *Posbindu* with structured, evidence-based, and culturally responsive modules could enhance the sustainability and reach of hypertension interventions across Indonesia.

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Conflict of Interest

The authors should declare that there is no conflict of interest.

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