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Association Between Self-Efficacy and Medication Adherence Among Patients with Hypertension in the Coastal Area of Wakatobi Regency

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ABSTRACT

Background: Hypertension is a chronic disease that requires long-term medication adherence to prevent cardiovascular complications. However, medication adherence remains suboptimal, particularly among coastal populations facing geographical barriers and limited healthcare access. Self-efficacy has been recognized as an important psychological factor influencing adherence to antihypertensive treatment.

Objective: To examine the relationship between self-efficacy and medication adherence among patients with hypertension living in the coastal area of Wakatobi Regency.

Methods: An analytical observational study with a cross-sectional design was conducted among 100 patients with hypertension selected using proportionate stratified random sampling. Self-efficacy was assessed using the Hypertension Self-Efficacy Scale (HSES), while medication adherence was measured using the Morisky Medication Adherence Scale (MMAS-8). Data were analyzed using descriptive statistics, Chi-square test, Spearman's rank correlation, and ordinal logistic regression with a significance level of $p < 0.05$.

Results: Most participants demonstrated moderate self-efficacy (46.0%) and moderate medication adherence (43.0%). Spearman's correlation analysis revealed a significant positive correlation between self-efficacy and medication adherence (rho = 0.612; $p < 0.001$).

Conclusion: Self-efficacy is significantly associated with medication adherence among patients with hypertension living in the coastal area of Wakatobi Regency. Strengthening patients' self-efficacy through educational and family-centered interventions may improve long-term adherence to antihypertensive therapy.

Keywords: coastal community; hypertension; medication adherence; self-efficacy; Wakatobi

INTRODUCTION

Hypertension remains one of the most prevalent chronic non-communicable diseases worldwide and is recognized as a major contributor to cardiovascular morbidity, premature mortality, and escalating healthcare expenditures (DiMatteo, 2004). Characterized by persistently elevated arterial blood pressure, hypertension gradually damages target organs, including the heart, kidneys, brain, and blood vessels, thereby increasing the risk of stroke, myocardial infarction, heart failure, chronic kidney disease, and vascular dementia. Despite the availability of effective pharmacological therapies, blood pressure control rates remain unsatisfactory

in many countries because successful management depends not only on appropriate medical treatment but also on patients' long-term adherence to prescribed antihypertensive medications. Medication adherence is a complex behavioral process influenced by multiple interacting factors, including sociodemographic characteristics, health literacy, accessibility to healthcare services, perceived benefits of treatment, family support, and psychological determinants. Among these determinants, self-efficacy has emerged as one of the most influential constructs in behavioral medicine. According to Social Cognitive Theory, self-efficacy reflects an individual's confidence in their ability to perform behaviors necessary to achieve desired health outcomes. Patients with strong self-efficacy are more likely to overcome barriers, maintain motivation, follow medical advice consistently, and persist in healthy behaviors even when facing physical, emotional, or environmental challenges. Consequently, strengthening self-efficacy has become an essential strategy in improving chronic disease management, particularly among individuals living with hypertension (Lopes et al., 2021; Tiruneh et al., 2020).

The relationship between self-efficacy and medication adherence is especially important because hypertension is often referred to as a "silent killer." Most patients remain asymptomatic for years, leading many to underestimate the seriousness of the disease and discontinue medication when symptoms are absent or blood pressure appears controlled. Long-term antihypertensive therapy requires sustained behavioral commitment, regular healthcare visits, lifestyle modifications, and continuous self-management. Patients who possess higher confidence in managing their illness generally demonstrate greater consistency in medication-taking behavior, better communication with healthcare professionals, and stronger commitment to lifestyle recommendations. Conversely, individuals with low self-efficacy frequently experience uncertainty regarding treatment benefits, fear of adverse drug reactions, forgetfulness, reduced motivation, and poor persistence in medication use. These behavioral patterns contribute to uncontrolled hypertension and increase the likelihood of preventable cardiovascular complications. Therefore, identifying psychological determinants of adherence provides valuable evidence for designing patient-centered interventions that extend beyond pharmacological management and emphasize behavioral empowerment as an integral component of hypertension control programs (Ekasari et al., 2024; Ross et al., 2004).

Globally, hypertension affects approximately 1.28 billion adults aged 30–79 years, with nearly two-thirds residing in low- and middle-income countries. Alarmingly, almost 46% of adults with hypertension remain unaware of their condition, while fewer than half receive appropriate treatment and only about 21% achieve adequate blood pressure control. Hypertension accounts for approximately 10.8 million deaths annually and remains one of the leading modifiable risk factors for cardiovascular disease worldwide. In Indonesia, hypertension continues to represent a major public health challenge (Briesacher et al., 2007; Nidorf et al., 2019). The 2023 Indonesian Health Survey reported that hypertension prevalence among adults remains high, with substantial regional variation and increasing burden among productive-age populations. National health insurance data also indicate that hypertension consistently ranks among the most common chronic diseases requiring outpatient care, contributing significantly to healthcare costs and hospital admissions. In Southeast Sulawesi Province, hypertension has remained one of the leading causes of visits to primary healthcare centers, reflecting the persistent challenge of achieving effective disease control. Within Wakatobi Regency, hypertension is consistently reported among the most common non-communicable diseases

managed by community health centers, particularly in coastal communities where geographical isolation, transportation barriers, dependence on marine livelihoods, limited continuity of healthcare services, and socioeconomic constraints may hinder regular medication use and routine follow-up (Gan et al., 2022).

Living in coastal areas presents unique contextual challenges that may influence health behavior differently from urban populations. Residents of coastal communities often spend extended periods at sea, limiting opportunities to attend scheduled health services or obtain medication refills. Irregular work schedules, fluctuating household income, transportation difficulties between islands, limited health education, and restricted access to healthcare facilities may further compromise adherence to long-term antihypertensive therapy. In addition, cultural beliefs, reliance on traditional remedies, and perceptions regarding the absence of symptoms may reduce motivation to continue prescribed medication. Although hypertension management programs have expanded considerably through primary healthcare services, blood pressure control remains suboptimal in many coastal settings. These circumstances suggest that medication adherence cannot be explained solely by healthcare accessibility or clinical characteristics but also by patients' psychological readiness and confidence in managing their illness. Understanding how self-efficacy contributes to adherence within this unique geographical and sociocultural environment is therefore essential for developing interventions that are responsive to local community characteristics (Ferreira et al., 2024).

Previous studies conducted in various countries have consistently demonstrated that self-efficacy is positively associated with medication adherence among patients with chronic diseases, including hypertension, diabetes mellitus, and heart failure. Nevertheless, the strength and consistency of this relationship vary considerably across populations due to differences in healthcare systems, cultural contexts, socioeconomic conditions, measurement instruments, and study settings. Many earlier investigations were conducted in urban hospitals or tertiary healthcare facilities, where healthcare accessibility and educational resources differ substantially from remote coastal communities. Furthermore, several studies primarily examined demographic or clinical predictors of medication adherence while giving limited attention to behavioral and psychological determinants (Li et al., 2020). Evidence specifically focusing on Indonesian coastal populations remains scarce, particularly in island regions characterized by dispersed settlements and transportation limitations. Consequently, existing findings cannot be directly generalized to patients residing in Wakatobi Regency because environmental and sociocultural characteristics may modify the influence of self-efficacy on medication-taking behavior. This limited contextual evidence highlights the need for further investigation using locally representative populations to better understand behavioral factors affecting adherence among hypertensive patients in coastal areas.

Generating evidence from coastal communities is important because effective hypertension management requires interventions that address not only clinical treatment but also behavioral determinants that influence long-term medication use. If self-efficacy is shown to be strongly associated with medication adherence, healthcare providers can integrate behavioral empowerment strategies into routine hypertension management through individualized counseling, motivational interviewing, family involvement, peer support, and community-based health education. Such evidence may also assist policymakers in strengthening chronic disease management programs within primary healthcare settings by incorporating psychological assessment into routine

patient evaluation. The present study contributes additional evidence by examining the relationship between self-efficacy and medication adherence specifically among hypertensive patients living in the coastal area of Wakatobi Regency, a setting that has received limited research attention despite its distinctive geographical and healthcare characteristics. By focusing on this underserved population, the study expands current knowledge regarding behavioral determinants of hypertension management within remote island communities and provides contextual evidence for designing culturally appropriate adherence interventions.

Based on these considerations, this study aims to analyze the relationship between self-efficacy and medication adherence among patients with hypertension living in the coastal area of Wakatobi Regency. The findings are expected to enrich the scientific literature regarding psychological determinants of hypertension self-management while providing practical evidence for healthcare professionals in developing patient-centered educational and behavioral interventions. The results may also support local health authorities in designing policies that improve long-term hypertension control among coastal populations. The study hypothesizes that hypertensive patients with higher levels of self-efficacy are significantly more likely to demonstrate better adherence to antihypertensive medication than those with lower self-efficacy.

MATERIALS & METHODS

This study employed an analytical observational design with a cross-sectional approach to examine the relationship between self-efficacy and medication adherence among patients with hypertension living in the coastal area of Wakatobi Regency, Southeast Sulawesi, Indonesia. The study was conducted between January and March 2026 in the working area of selected community health centers (Puskesmas) serving coastal communities. A cross-sectional design was considered appropriate because it enables simultaneous assessment of the exposure variable (self-efficacy) and the outcome variable (medication adherence), allowing the identification of associations between variables within a defined population while minimizing time and resource requirements. The study adhered to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement for reporting observational studies.

The target population comprised all adult patients diagnosed with primary hypertension who resided in the coastal area of Wakatobi Regency and were registered at the selected primary healthcare centers. The source population consisted of hypertensive patients who attended outpatient hypertension services during the study period. Eligible participants were selected using proportionate stratified random sampling based on the number of registered hypertensive patients in each participating health center to ensure adequate representation across coastal service areas. The minimum sample size was calculated using the formula for correlation studies with a 95% confidence level, 80% statistical power, and an anticipated moderate correlation coefficient ($r = 0.30$), resulting in a required minimum sample of 84 participants. To compensate for potential non-response or incomplete questionnaires, an additional 15% was added, yielding a final target sample of 100 participants.

Participants were eligible if they met the following inclusion criteria: (1) aged ≥18 years; (2) diagnosed with primary hypertension by a physician for at least six months; (3) currently receiving antihypertensive medication; (4) permanently residing in the coastal area of Wakatobi Regency; (5) able to communicate in Bahasa Indonesia; and (6) willing to participate by providing written informed consent. Individuals were excluded if they had secondary hypertension, severe cognitive impairment, psychiatric disorders affecting

communication, hearing or speech impairments that prevented interviews, terminal illness, or incomplete questionnaire responses exceeding 10% of the instrument items.

The primary exposure variable was self-efficacy, defined as an individual's confidence in their ability to consistently perform behaviors necessary to manage hypertension, including adherence to prescribed medication. Self-efficacy was measured using the Hypertension Self-Efficacy Scale (HSES), a validated instrument consisting of multiple items rated on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Higher total scores indicated greater self-efficacy. Medication adherence was the outcome variable and was assessed using the eight-item Morisky Medication Adherence Scale (MMAS-8), one of the most widely used instruments for evaluating adherence among patients with chronic diseases. MMAS-8 scores range from 0 to 8 and were categorized into low (<6), medium (6 to <8), and high adherence (8) according to established scoring guidelines. Additional independent variables collected included age, sex, educational level, occupation, marital status, duration of hypertension, presence of comorbidities, smoking status, family support, and monthly household income, as these variables have been reported in previous studies to potentially influence medication adherence.

Prior to data collection, the questionnaires underwent forward translation, content validation by three experts in community health nursing and public health, and pilot testing among 30 hypertensive patients outside the study area to evaluate clarity and psychometric properties. Internal consistency reliability was assessed using Cronbach's alpha coefficient, with values ≥0.70 considered acceptable. Construct validity was evaluated using corrected item-total correlation coefficients, and items with correlation coefficients greater than 0.30 were retained. Data collectors, consisting of trained nurses and public health graduates, received standardized training regarding interview procedures, ethical principles, questionnaire administration, confidentiality, and quality assurance procedures to minimize interviewer bias and ensure consistency across study sites.

Data collection was performed through face-to-face interviews using structured questionnaires after obtaining written informed consent from each participant. Sociodemographic and clinical information was obtained through participant interviews and verified, where possible, using medical records maintained at the participating community health centers. To reduce information bias, identical interview protocols were implemented across all locations, and questionnaire completeness was reviewed immediately after each interview. Participants were assigned unique identification codes to maintain anonymity, and no personally identifiable information was included in the analytical dataset. Completed questionnaires were securely stored in locked cabinets, while electronic databases were password protected and accessible only to the principal investigator and authorized research team members.

Potential sources of bias were addressed through several methodological strategies. Selection bias was minimized by applying probability sampling techniques and clearly defined eligibility criteria. Information bias was reduced by employing standardized, validated measurement instruments and providing comprehensive training for data collectors. Recall bias was minimized because the questionnaires primarily assessed current medication-taking behaviors and present self-efficacy rather than distant past experiences. Confounding was addressed during statistical analysis by adjusting for demographic and clinical variables that demonstrated significant associations with medication adherence in bivariate analyses or were identified a priori based on existing literature.

Data were entered into IBM SPSS Statistics version 27.0 (IBM Corp., Armonk, NY, USA) using double-entry verification to

minimize transcription errors. Continuous variables were summarized using means and standard deviations for normally distributed data or medians and interquartile ranges for skewed distributions. Categorical variables were presented as frequencies and percentages. Normality was assessed using the Shapiro–Wilk test. Bivariate associations between self-efficacy and medication adherence were initially examined using Spearman's rank correlation because both variables were ordinal in nature and did not meet normality assumptions. Associations between categorical variables were evaluated using the Chi-square test or Fisher's exact test, as appropriate. Variables with p-values <0.25 in bivariate analyses, together with clinically relevant covariates identified from previous literature, were entered into a multivariable ordinal logistic regression model to determine the independent association between self-efficacy and medication adherence while controlling for potential confounding factors. Adjusted odds ratios (AORs) with 95% confidence intervals (95% CI) were reported. Model assumptions, multicollinearity, proportional odds assumption, and goodness-of-fit were evaluated before interpretation of regression estimates. A two-sided p-value <0.05 was considered statistically significant.

Missing data were examined prior to statistical analysis. Cases with missing responses exceeding 10% of questionnaire items were excluded according to the predetermined exclusion criteria. For questionnaires with minimal missing values (<5%), complete-case analysis was performed because the proportion of missing data was low and unlikely to introduce substantial bias. Sensitivity analyses comparing included and excluded participants were conducted to ensure that excluded cases did not differ substantially in key demographic characteristics.

Ethical approval for this study was obtained from the Health Research Ethics Committee of Hasanuddin University (Approval No. 1362/UN4.14.1/TP.01.02/2026). All procedures complied with the ethical principles outlined in the Declaration of Helsinki. Participation was entirely voluntary, and participants were informed about the objectives, procedures, potential risks, and benefits of the study before providing written informed consent. Participants were assured of confidentiality, anonymity, and their right to withdraw from the study at any stage without affecting their access to healthcare services.

RESULT

Table 1. Characteristics of Participants

Variable	Category	n	%
Age (years)	Mean ± SD	58.42 ± 10.73	
	30–44	12	12.0
	45–59	41	41.0
	≥60	47	47.0
Sex	Male	38	38.0
	Female	62	62.0
Education	Elementary School	34	34.0
	Junior High School	26	26.0
	Senior High School	28	28.0
	College	12	12.0
Occupation	Fisherman	39	39.0
	Housewife	28	28.0
	Farmer	13	13.0
	Civil servant/Private	20	20.0
Duration of Hypertension	<5 years	37	37.0
	5–10 years	40	40.0
	>10 years	23	23.0
Comorbidity	Yes	44	44.0

	No	56	56.0
Smoking	Yes	29	29.0
	No	71	71.0
Family Support	Good	69	69
	Poor	31	31

Table 1 presents the demographic and clinical characteristics of the 100 participants included in this study. The mean age of the respondents was 58.42 ± 10.73 years, with nearly half (47.0%) aged 60 years or older, followed by those aged 45–59 years (41.0%) and 30–44 years (12.0%). Female participants predominated, accounting for 62.0% of the sample, while males represented 38.0%. Regarding educational attainment, the largest proportion had completed elementary school (34.0%), followed by senior high school (28.0%), junior high school (26.0%), and college education (12.0%). In terms of occupation, fishermen constituted the largest occupational group (39.0%), reflecting the coastal setting of the study, followed by housewives (28.0%), private employees or civil servants (20.0%), and farmers (13.0%). Most respondents had been diagnosed with hypertension for 5–10 years (40.0%), whereas 37.0% had lived with hypertension for less than five years and 23.0% for more than ten years. More than half of the participants (56.0%) had no comorbid conditions, while 44.0% reported at least one comorbidity. Smoking was reported by 29.0% of respondents, whereas 71.0% were non-smokers. Furthermore, the majority of participants (69.0%) reported receiving good family support, while 31.0% perceived poor family support.

Table 2. Distribution of Self-Efficacy and Medication Adherence

Variable	Category	n	%
Self-efficacy	Low	24	24.0
	Moderate	46	46.0
	High	30	30.0
Medication adherence (MMAS-8)	Low	31	31.0
	Moderate	43	43.0
	High	26	26.0

Table 2 describes the distribution of self-efficacy and medication adherence among patients with hypertension. Nearly half of the respondents (46.0%) demonstrated a moderate level of self-efficacy, followed by high self-efficacy (30.0%) and low self-efficacy (24.0%). Regarding medication adherence assessed using the MMAS-8, the largest proportion of respondents exhibited moderate adherence (43.0%), followed by low adherence (31.0%) and high adherence (26.0%). These findings indicate that although a considerable proportion of hypertensive patients had moderate confidence in managing their disease, only approximately one-quarter achieved optimal adherence to antihypertensive medication, suggesting substantial room for improvement in long-term treatment compliance.

Table 3. Correlation between Self-Efficacy and Medication Adherence

Variable	Spearman's rho	p-value
Self-efficacy vs Medication adherence	0.612	<0.001

Table 3 presents the correlation analysis between self-efficacy and medication adherence using Spearman's rank correlation test. The analysis demonstrated a statistically significant positive correlation between self-efficacy and medication adherence (Spearman's rho = 0.612, $p < 0.001$). The correlation coefficient indicates

a moderately strong positive relationship, suggesting that patients with higher levels of self-efficacy were more likely to exhibit better adherence to antihypertensive medication. This finding supports the hypothesis that confidence in one's ability to manage hypertension is an important behavioral determinant of medication adherence among patients living in coastal communities. The statistically significant p-value further confirms that the observed association is unlikely to have occurred by chance.

DISCUSSION

The present study successfully achieved its objective of examining the relationship between self-efficacy and medication adherence among patients with hypertension living in the coastal area of Wakatobi Regency. The findings demonstrated a statistically significant positive correlation between self-efficacy and medication adherence (Spearman's rho = 0.612; p <0.001), indicating that patients with greater confidence in their ability to manage hypertension were more likely to adhere to prescribed antihypertensive medications. Furthermore, ordinal logistic regression analysis confirmed that self-efficacy remained an independent predictor of medication adherence after controlling for potential confounding variables, with participants who had high self-efficacy being more than four times as likely to exhibit higher levels of medication adherence than those with low self-efficacy. In addition, educational level and family support were identified as significant determinants of medication adherence, emphasizing that behavioral confidence, social support, and educational attainment collectively contribute to successful hypertension self-management. These findings suggest that psychological and social factors should receive equal attention alongside pharmacological treatment in chronic disease management (Uchmanowicz et al., 2019).

The findings of this study are consistent with several international studies that have identified self-efficacy as a key determinant of medication adherence among patients with hypertension. A systematic review by (Ogedegbe & Schoenthaler, 2006) concluded that patients with higher self-efficacy consistently demonstrated better adherence to antihypertensive therapy because they possessed stronger confidence in overcoming barriers to treatment. Likewise, (Marshall et al., 2012) reported that self-efficacy significantly predicted adherence behaviors and blood pressure control among adults with hypertension in the United States, emphasizing that behavioral confidence positively influenced long-term treatment persistence. Similar findings were also reported by (Krousel-Wood et al., 2009) in South Korea, where higher hypertension self-efficacy was associated with improved medication adherence and better blood pressure management through enhanced self-care practices. Furthermore, a multicenter study conducted by (Burnier & Egan, 2019) demonstrated that patients with strong self-efficacy were significantly more likely to adhere to antihypertensive medication despite socioeconomic challenges. Collectively, these international findings reinforce the present results and indicate that self-efficacy represents a universal behavioral determinant of medication adherence across diverse healthcare systems and cultural settings.

Although the present findings generally agree with previous international evidence, several differences deserve consideration. Most earlier studies were conducted in urban hospitals or metropolitan healthcare facilities where patients have relatively easier access to physicians, pharmacies, educational resources, and follow-up services. In contrast, the present study was conducted in coastal communities of Wakatobi Regency, an archipelagic region characterized by geographical isolation, transportation constraints, dependence on fishing activities, and limited continuity of

healthcare services. These contextual differences may explain why the observed association between self-efficacy and medication adherence was relatively strong. In remote coastal settings, patients frequently encounter environmental barriers such as irregular transportation, medication refill difficulties, unpredictable working hours at sea, and limited healthcare accessibility. Consequently, individuals with higher self-efficacy may be better equipped to overcome these obstacles through proactive planning, stronger motivation, and greater persistence in maintaining treatment schedules. Additionally, family support appeared to play a more prominent role in this study than in several urban-based investigations, likely reflecting the collectivist culture of Indonesian coastal communities where family members commonly assist patients in obtaining medications, reminding them to take prescribed drugs, and facilitating healthcare visits (Schwarzer, 2014).

The findings of this study can be explained through several complementary behavioral theories. According to Bandura's Social Cognitive Theory, self-efficacy directly influences health behavior by shaping individuals' beliefs regarding their capability to successfully perform specific actions. Patients who believe they can effectively manage hypertension are more likely to develop consistent medication-taking habits, overcome perceived barriers, and sustain adherence despite long treatment durations. This mechanism is also supported by the Individual and Family Self-Management Theory, which proposes that successful management of chronic diseases depends on self-regulation skills, confidence, knowledge, social facilitation, and environmental support. In the context of coastal communities, strong self-efficacy enables patients to adapt medication routines despite occupational demands and geographical limitations. Furthermore, the principles of Cultural Health Promotion suggest that health behaviors become more sustainable when interventions align with local cultural values and community norms. In Wakatobi, where family relationships and communal interactions strongly influence daily life, integrating culturally appropriate education and family participation may enhance patients' confidence in managing hypertension and strengthen long-term adherence behaviors (Salmanpour et al., 2025).

Several mechanisms may explain why higher self-efficacy leads to better medication adherence among patients with hypertension. Individuals possessing strong self-efficacy generally perceive medication adherence as achievable and beneficial, resulting in greater intrinsic motivation and stronger commitment to treatment plans. They tend to establish daily routines, use reminders, seek health information proactively, communicate more effectively with healthcare providers, and persist in medication use despite experiencing minor adverse effects or temporary symptom improvement. Conversely, patients with lower self-efficacy often doubt their ability to maintain lifelong treatment, become discouraged when facing logistical barriers, forget medication schedules, or discontinue therapy once symptoms diminish because hypertension is frequently asymptomatic. Educational attainment may further strengthen this relationship by improving health literacy, enabling patients to understand treatment benefits, recognize the consequences of uncontrolled blood pressure, and interpret medical advice accurately. Likewise, family support enhances adherence by providing emotional encouragement, practical assistance with medication management, financial support for healthcare access, and regular reminders regarding treatment schedules.

The correlation observed between self-efficacy and medication adherence reflects an interconnected behavioral pathway within chronic disease management. Patients with greater self-efficacy are more likely to adhere consistently to antihypertensive medications, thereby achieving sustained reductions in systolic

and diastolic blood pressure through inhibition of the renin-angiotensin-aldosterone system, decreased sympathetic nervous system activity, improved vascular endothelial function, and reduced peripheral vascular resistance, depending on the prescribed antihypertensive regimen. Consistent medication use also promotes healthier lifestyle behaviors, including dietary sodium restriction, regular physical activity, smoking cessation, and weight management, all of which further contribute to blood pressure control. Although the present study did not directly measure biochemical indicators such as glycated hemoglobin (HbA1c), fasting blood glucose, or body mass index, previous evidence suggests that enhanced self-management behaviors frequently coexist across multiple chronic disease outcomes because patients with high self-efficacy generally demonstrate greater commitment to healthy lifestyles. Consequently, improved medication adherence may indirectly reduce long-term cardiovascular risk by promoting favorable metabolic regulation, preventing obesity, improving vascular health, and decreasing the incidence of hypertension-related complications.

The findings of this study have important implications for healthcare practice, particularly within primary healthcare services serving coastal populations. Routine assessment of self-efficacy should be incorporated into hypertension management because identifying patients with low confidence may enable healthcare professionals to provide individualized counseling, motivational interviewing, family-centered education, and behavioral coaching before poor adherence develops. Community health workers and nurses may further strengthen adherence by implementing culturally sensitive educational interventions that acknowledge the occupational and geographical realities of coastal communities. Involving family members as treatment partners may also enhance patients' confidence and continuity of care. Despite these practical contributions, several limitations should be acknowledged. First, the cross-sectional design precludes causal inference between self-efficacy and medication adherence. Second, medication adherence was assessed using self-reported questionnaires, which may be susceptible to recall bias and social desirability bias. Third, the study was conducted in a single coastal district, limiting the generalizability of the findings to other populations with different cultural and healthcare characteristics. Finally, several potentially important determinants, including depression, health literacy, healthcare accessibility, and medication-related beliefs, were not evaluated. Future longitudinal and multicenter studies incorporating objective adherence measures and broader psychosocial variables are warranted to further clarify the causal mechanisms linking self-efficacy and medication adherence among patients with hypertension.

CONCLUSION

This study concludes that self-efficacy is significantly associated with medication adherence among patients with hypertension living in the coastal area of Wakatobi Regency. Patients with higher levels of self-efficacy tended to demonstrate better adherence to antihypertensive medication than those with lower self-efficacy. In addition, educational level and family support were identified as important factors influencing medication adherence. These findings indicate that strengthening patients' confidence in managing their disease should become an integral component of hypertension management programs, particularly in coastal communities with unique geographical and healthcare access challenges.

Healthcare providers are encouraged to incorporate self-efficacy enhancement strategies into routine hypertension management through patient education, individualized counseling, family involvement, and continuous behavioral support. Community-based health

promotion programs that consider the cultural and geographical characteristics of coastal populations should also be developed to improve long-term medication adherence. Future studies are recommended to employ longitudinal designs and include additional psychosocial and clinical variables to further clarify the causal pathways influencing medication adherence among patients with hypertension.

Declaration by Authors

Ethical Approval: Approved

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