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Self-care behavior among adult patients with hypertension in Padang, West Sumatra, Indonesia: A cross-sectional study

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Abstract

Background: Self-care behavior is crucial in preventing chronic diseases, such as hypertension, which has become highly prevalent in Indonesia. Hypertension, often referred to as the "silent killer" due to its asymptomatic nature, can easily go unnoticed. Neglecting its treatment can lead to severe complications, including heart disease, heart failure, and stroke. Despite adults with hypertension feeling well, embracing self-care behavior, including making healthy lifestyle choices, disease management, and enhancing life quality, remains essential.
Objective: This study aimed to describe the self-care behavior of adult patients with hypertension in Indonesia.
Methods: A cross-sectional study design was employed, involving 270 participants selected through consecutive sampling. Data were collected between 15 March and 4 April 2023, using the Hypertension Blood Pressure Self Care Profile (HBP-SCP) questionnaire in six public healthcare centers in Padang City, West Sumatra, Indonesia. The data were analyzed using descriptive analysis, Mann-Whitney, and Kruskal-Wallis tests.
Results: The self-care behavior among adult patients with hypertension was at a moderate level (Mean = 49.78, SD = 6.64), and it had significant differences according to ethnicity (p = 0.041), marital status (p = 0.017), and body mass index (p = 0.008).
Conclusion: The findings highlight the influence of diverse ethnic backgrounds, various marital statuses, and differing body mass index levels, which may lead to distinct approaches to managing hypertension. These results offer valuable insights for nurses and other healthcare professionals to develop comprehensive strategies to enhance self-care among adult patients with hypertension.

Keywords

Indonesia; adult; hypertension; self-care behavior; life style; ethnicity; marital status; body mass index; blood pressure; cross-sectional studies

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Background

Hypertension is among the prevalent noncommunicable diseases (NCDs) acknowledged as a global public health concern, particularly in low- and middle-income countries (LMICs). Furthermore, in these LMICs, just one out of every three individuals are aware of their hypertension condition, and approximately 8% have their blood pressure effectively managed (Schutte et al., 2021). The worldwide prevalence of hypertension stands at 22.1%. In the United States, this figure is around 12.9%, while it reaches 25.1% in Southeast Asia; Indonesia specifically records a rate of 23.8%. Indonesia's prevalence surpasses other Asian countries like Bangladesh, Korea, and Thailand (Khasanah, 2022; Kurnianto et al., 2020; Mohammed Nawi et al., 2021; Peltzer & Pengpid, 2018). By 2025, it is projected that approximately 29.2% of the global populace will experience hypertension. Among the 972 million individuals affected by this condition, 333 million reside in developed nations, whereas 639 million live in developing nations, including Indonesia (Firdaus & Suryaningrat, 2020).

According to the 2018 Indonesian Basic Health Survey, the prevalence of hypertension among individuals aged ≥18 years is 34.1%. Notably, North Sulawesi province has the highest hypertension prevalence at 13.2%, while Papua demonstrates the lowest prevalence at 4.4% (Indonesia Ministry of Health, 2021). Furthermore, in 2018, the prevalence of hypertension among various age groups was as follows: 64.9% overall, 13.2% for ages 18-24, 20.1% for ages 25-34, 31.6% for ages 35-44, and 45.3% among the older adults (Sawitri et al., 2022). In 2021, there were significant concerns about hypertension prevalence in West Sumatra, with 162,979 reported cases. Notably, 31.5% of the population, or 51,360 individuals aged 15 years and above, were diagnosed with hypertension. Among sub-districts in Padang City, Pauh Health Center had the highest occurrence of hypertension in individuals aged 15 years and above, totaling 6,691 cases. Following that, Andalas

Health Center reported 4,506 cases, Lubuk Kilangan Health Center documented 4,056 cases, Lapai Health Center registered 3,563 cases, Air Tawar Health Center had 3,058 cases, and Rawang Barat Health Center recorded 3,039 cases (Padang Health Office, 2022).

Patients with hypertension require ongoing care, management, and continuous medication. This condition can significantly impact their quality of life and increase healthcare expenses. One approach to managing blood pressure is through modifying self-care behaviors (Giena et al., 2018). Self-care behavior modification includes using healthcare services, adherence to medical treatment plans, and self-directed health practices, all promoting better health (Pahria et al., 2022). For individuals dealing with conditions like hypertension, self-care becomes particularly significant, as they often have to manage their health independently (Irwan et al., 2016; Yang et al., 2014). Fatmawati et al. (2021) also stated that self-care for hypertension includes healthy living, disease management, and enhancing life quality. It involves abstaining from detrimental habits, adjusting diet (limiting salt to 6g/day), regular exercise (20-25 min, five times/week), avoiding caffeine, alcohol, and smoking, and adhering to medical guidance. Stress management and sufficient rest are vital lifestyle modifications (Indonesia Ministry of Health, 2021).

It is important to note that poor self-care and habits such as ready-to-eat food, high salt, fat, and sugar intake contribute to hypertension rates (Su'ud et al., 2020). Indrayanti et al. (2018) stated that unhealthy lifestyles and lack of awareness, indicating low self-care behavior, pose notable hypertension risks. Research suggests that the long-term effects of unhealthy lifestyle choices, such as excessive alcohol consumption, a lack of physical activity, unhealthy eating habits, and being overweight, lead to insufficient control of blood pressure (Ham & Yang, 2011). The majority of individuals with high blood pressure do not experience noticeable symptoms. However, significantly elevated blood pressure levels can lead to symptoms such as headaches, blurred vision, chest discomfort, and other issues. If hypertension remains untreated, it can result in the development of other health conditions such as kidney disease, heart disease, and stroke (Luo et al., 2020). Thus, self-care is central to blood pressure management.

Several factors can influence self-care behavior, including age, gender, educational status, family income, and knowledge about a specific health condition (Harooni et al., 2014). Additionally, among adults with hypertension, there is a positive association between self-care behavior and the duration of hypertension (Lee et al., 2010). Another study also has documented factors that have an impact on self-care behaviors, including ethnicity/race, marital status, access to blood pressure monitoring equipment at home, and an individual's medical history, specifically with regard to being overweight and obese (Gebremichael et al., 2019; Salim et al., 2019). Furthermore, other contributing factors involve the availability of a conducive environment for physical activities, one's level of knowledge about the condition, the presence of social and familial support, and individual perceptions regarding the severity of the illness (Ademe et al., 2019; Motlagh et al., 2016; Pahria et al., 2022). However, some studies have found negative correlations between self-care behavior and age, gender, income, and education level among older adults with hypertension (Li & Zhang, 2013; Martin et al., 2008). In addition, Kumalasari et al. (2023) highlight adults' low self-care adherence due to perceived good health, busy schedules, and resistance to change.

In response to the prevalent occurrence and noticeable patterns of hypertension observed in Padang city, and given that hypertension often lacks noticeable symptoms, it highlights the essential role of healthcare professionals, especially nurses, in its effective management. In clinical settings, nurses are multifaceted in caring for individuals with hypertension, including monitoring, education, medication oversight, lifestyle guidance, risk assessment, collaboration with other healthcare providers, community engagement, behavioral assistance, and sustained follow-up. Therefore, this study aimed to describe the self-care behavior of adult patients with hypertension. The study's findings offer valuable insights into the self-care behavior of individuals with hypertension, motivating them to enhance these behaviors and subsequently reduce the likelihood of experiencing complications associated with this condition.

Methods

Study Design

This research employed a cross-sectional design with an analytical survey, enabling the researchers to simultaneously evaluate both the outcome and the exposures among the study participants.

Samples/Participants

The samples consisted of adult outpatient individuals with hypertension who received regular treatment and routinely visited six public healthcare centers (PHC) located within Padang City, West Sumatra, Indonesia. The selected PHCs were Pauh PHC, Andalas PHC, Lubuk Kilangan PHC, Lapai PHC, Air Tawar PHC, and West Rawang PHC. These PHCs were chosen to represent the hypertensive population in Padang City.

G*Power software (latest ver. 3.1.9.7; Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany) was utilized (Kang, 2021) to determine an appropriate sample size. The suggested sample size was computed based on a correlation coefficient (p) H1 of 0.25, a significance level (α) of 0.05, and a power of 0.99, yielding a minimum sample size of 244. Eventually, 270 participants were enlisted for the ultimate analysis. These specific values were chosen to reduce the risk of errors effectively.

The inclusion criteria of the samples were as follows: 1) patients diagnosed with hypertension without any other complications, 2) adult individuals between the ages of 18 and 45 who have been diagnosed with hypertension and are willing to participate as respondents, 3) individuals with hypertension who possess basic reading and writing abilities, and 4) respondents who demonstrated cooperation throughout the study. Moreover, healthcare professionals were excluded as part of the criteria, as they tend to demonstrate strong self-care practices. A consecutive sampling technique was utilized to include eligible patients who met the criteria until the desired sample size was reached. Consecutive sampling was

implemented by choosing participants sequentially, following a specific set of criteria or order (Acharya et al., 2013).

Instruments

In this study, two instruments were utilized. The first one consisted of demographic factors, drawing upon a review of existing literature that has identified known factors related to self-care behavior among patients with hypertension, such as age, gender, ethnicity, educational status, marital status, duration of hypertension, and body mass index (BMI) (Ademe et al., 2019; Gebremichael et al., 2019; Harooni et al., 2014; Martin et al., 2008; Motlagh et al., 2016; Pahria et al., 2022; Salim et al., 2019; Yang et al., 2014). The enumerator evaluated participants' BMI through a straightforward process involving basic body weight and height measurements. BMI was calculated using the following formula: weight (kg) divided by height (m^2). The resulting BMI values were categorized as follows: underweight (BMI <18.5 kg/m^2), normal (BMI=18.5–24.9 kg/m^2), overweight (BMI=25.0–29.9 kg/m^2), and obese (BMI >30 kg/m^2) (Al Banna et al., 2021).

The primary research instrument used was the Hypertension Blood Pressure Self Care Profile (HBP-SCP), designed to evaluate self-care in hypertension. Developed by Han et al. (2014) at Johns Hopkins University, this tool covers all hypertension self-care aspects through three sub-scales: self-care behavior, motivation, and self-efficacy. It contains 60 questions, 20 per sub-scale. This study focused on the behavior scale, which consists of 20 Likert-scale questions (always = 4, often = 3, sometimes = 2, rarely/never = 1). The instrument's total score is 80 points, indicating the highest level of self-care behavior. Since the original developers did not specify score categories, we applied Bloom's cutoff point. The overall score is categorized as follows: good if it falls within the range of 80 to 100% (between 80 and 64), moderate if it ranges from 60 to 79% (between 63 and 48), and poor if it is below 60% (score ≤47) (Bloom, 1968).

Han et al. (2014) verified the behavior scale's reliability through item analysis and Cronbach's alpha, with correlations and alpha values meeting acceptable criteria (>0.15 and >0.70, respectively). The behavior scale's item scores and Cronbach's alpha (0.83) indicated the questionnaire's validity and reliability. The Indonesian version of this scale has been adapted by Upoyo et al. (2021), demonstrating a validity value of 0.964 and reliability values ranging from 0.911 to 0.955. Hence, the scale was deemed suitable for this study. In addition, permission to use the Indonesian version of HBP-SCP for non-commercial use was granted.

Data Collection

The process of collecting data was supported by six enumerators. These enumerators were chosen among undergraduate students at the Faculty of Nursing, Universitas Andalas, who underwent initial training to ensure their alignment with the study's objectives, the questionnaire, and the data collection procedures employed in this research. The identification of respondents' addresses was facilitated by the nurses in each PHC. Respondents were recruited adhering to pre-established inclusion and exclusion criteria. Data were collected between 15 March and 4 April 2023.

Data Analysis

Data analysis was performed using IBM SPSS Statistics software version 25.0 (IBM Corp., Armonk, N.Y., USA). This study used univariate data analysis. Descriptive statistics such as frequency, percentage, mean, median, minimum-maximum (min-max), and standard deviation (SD) are used to present the data. Data normality test was performed using Kolmogorov-Smirnov test, and non-normally distributed data was found (p <0.05). Therefore, non-parametric tests, specifically the Mann-Whitney U and Kruskal Wallis H tests, were employed to identify differences in self-care behavior based on their demographic data. The significance level was established at p <0.05.

Ethical Consideration

Ethical approval for this study was granted by the Health Research Ethics Committee at the Center Public Hospital Dr. M Djamil, Padang, Indonesia (Approval number: LB.02.02/5.7/135/2023). Informed consent was given and signed by all participants.

Results

Characteristics of the Respondents

Table 1 displays the characteristics of 270 adult respondents with hypertension. The average age range fell between 20-45 years. Women constituted the majority, making up 57.8% of the participants. Most respondents belonged to the Minang tribe (73.7%) and had completed Senior High School (51.5%). The majority of the participants were married (81.9%). The average duration of hypertension was less than six months for 55.2% of respondents. A significant proportion of respondents (38.1%) were classified as underweight based on BMI.

Table 1 Description of respondent characteristics (N = 270)

Variable	f	%
Age (Mean 37.47; SD 0.48; Range 20 - 45)		
Gender		
Male	114	42.2
Female	156	57.8
Ethnicity		
Minangkabau	199	73.7
Javanese	46	17.0
Batak	11	4.1
Malay	14	5.2
Education level		
Elementary	37	13.7
Junior high school	53	19.6
Senior high school	139	51.5
College	41	15.2
Marital status		
Married	221	81.9
Not married	49	18.1
Duration of hypertension		
<6 months	149	55.2
>6 months	121	44.8
Body Mass Index (BMI)		
Underweight	103	38.1
Normal	65	24.1
Overweight	100	37.0
Obese	2	0.7

Description of Hypertension Blood Pressure Self-Care Profile (HBP-SCP)

Table 2 shows findings that reveal the behaviors of individuals with hypertension. The total mean score of the self-care behavior was 49.78 (SD = 6.64), indicating a moderate self-care behavior level. It is noted that about 41.1% of the study participants engaged in physical activities frequently. Additionally, 58.5% of those with hypertension occasionally adopted a low-sodium diet by substituting high-salt foods. To avoid a low-fat diet, 53.3% of these individuals sometimes preferred grilling and boiling over frying. In terms of alcohol consumption, 51.1% occasionally indulged in it. Approximately 52.6% of hypertension patients sometimes refrained from smoking. Blood pressure monitoring was sometimes practiced by 54.4% of those with hypertension.

Notably, it is observed that 48.5% of patients with hypertension occasionally overlooked taking their prescribed medication. Maintaining weight was an occasional practice for 42.2% of individuals with hypertension, while situational stress monitoring was sometimes undertaken by 41.5% of these patients. Visiting doctors was occasionally done by 42.6% of individuals with hypertension.

Table 2 Description of Hypertension Blood Pressure Self-Care Profile (HBP-SCP) (*N* = 270)

HBP-SCP Items	Mean	SD	Response to questions			
			Rarely f (%)	Sometimes f (%)	Often f (%)	Always f (%)
Physical activity						
Participate in regular physical activity (e.g., 30 minutes of walking 4-5 times per week	2.68	0.802	14 (5.2)	102 (37.8)	111 (41.1)	43 (15.9)
Low sodium diet						
Read the nutrition facts label for information on sodium content	2.20	0.836	54 (20.0)	125 (46.3)	73 (27.0)	18 (6.7)
Replace traditional high-salt foods (e.g., canned soups, Oodles of Noodles) with low-salt products (e.g., homemade soups, fresh vegetables)	1.99	0.695	61 (22.6)	158 (58.5)	45 (16.7)	6 (2.2)
Limit use of high-salt condiments (e.g., ketchup)	1.76	0.726	107 (39.6)	127 (47.0)	31 (11.5)	5 (1.9)
Eat less than 1 teaspoon of table salt per day (6 grams)	1.66	0.681	120 (44.4)	126 (46.7)	20 (7.4)	4 (1.5)
Low-fat diet						
Eat less foods high in saturated fat (e.g., red meat, butter) and trans fats (e.g., lard, shortening)	1.62	0.661	125 (46.3)	128 (47.4)	12 (4.4)	5 (1.9)
Cooking by grilling and boiling rather than frying	1.66	0.619	111 (41.1)	144 (53.3)	12 (4.4)	3 (1.1)
Read nutrition labels to check information on saturated fats (e.g., butter, red meats) and trans fat (e.g., lard, shortening)	1.65	0.661	117 (43.3)	137 (50.7)	10 (3.7)	6 (2.2)
Replace traditional high-fat foods (e.g., fried chicken) with low-fat products (e.g., grilled chicken)	1.59	0.638	132 (48.9)	120 (44.4)	16 (5.9)	2 (0.7)
Limit total caloric intake from fat (less than 65 grams) daily	1.62	0.621	119 (44.1)	139 (51.5)	8 (3.0)	4 (1.5)
Eat 5 or more servings of fruits and vegetables daily	1.61	0.646	125 (46.3)	129 (47.8)	12 (4.4)	4 (1.5)
Limit alcohol consumption						
Practice moderation in drinking alcohol daily (2 glasses or less for men; 1 glass or less for women)	1.63	0.624	117 (43.3)	138 (51.1)	12 (4.4)	3 (1.1)
Do not smoke						
Practice non-smoking	1.91	0.731	79 (29.3)	142 (52.6)	43 (15.9)	6 (2.2)
Self-monitoring of blood pressure						
Check your blood pressure at home	1.99	0.708	65 (24.1)	147 (54.4)	54 (20.0)	4 (1.5)
Drug taking						
Forget to take blood pressure medication	2.08	0.825	11 (4.1)	70 (25.9)	118 (43.9)	70 (25.9)
Forget to buy medicine again when it runs out	2.23	0.822	19 (7.0)	72 (26.7)	131 (48.5)	48 (17.8)
Weight control						
Keep your weight down	2.37	0.838	40 (14.8)	114 (42.2)	93 (34.4)	23 (8.5)
Stress reduction						
Monitor situations that cause high levels of stress (e.g., arguments, death in the family) that result in increased blood pressure	2.33	0.870	47 (17.4)	112 (41.5)	86 (31.9)	25 (9.3)
Try to stay away from anything and anybody that causes any kind of stress	2.54	0.860	32 (11.9)	95 (35.2)	109 (40.4)	34 (12.6)
Visits to the Doctor						
See a doctor regularly	2.69	0.818	10 (3.7)	115 (42.6)	94 (34.8)	51 (18.9)
Total score	49.78	6.64				

Differences in Self-Care Behavior according to Respondents' Characteristics

Table 3 shows that there were significant differences in self-care behavior among the respondents according to ethnicity (p = 0.041), marital status (p = 0.017), and BMI (p = 0.008). This suggests that marital status, BMI, and ethnic group might influence self-care behaviors among adult patients with hypertension. These significant differences emphasize the need to provide nursing interventions and healthcare strategies for self-care improvement, accounting for ethnic group, marital status, and BMI, thereby enhancing hypertension management, particularly in public health centers in Indonesia.

Table 3 Differences in self-care behavior based on respondent characteristics (*N* = 270)

Characteristic	*n*	Median	Mean Rank	Z	*r*	$\chi 2$	df	*p*
Gender[a]								
Male	114	38.0	131.2	-0.774	0.047			0.439
Female	156	39.0	138.6					
Ethnicity[b]								
Minangkabau	199	38.0	128.4			8.23	3	0.041*
Javanese	46	39.0	150.4					
Batak	11	38.0	144.7					
Malay	14	41.5	180.6					
Education level								
Elementary	37	38.0	128.1			1.57	3	0.666
Junior high school	53	38.0	127.6					
Senior high school	139	39.0	140.9					
College	41	38.0	133.8					
Marital status								
Married	221	39.0	140.8	-2.380	0.145			0.017*
Not married	49	38.0	111.5					
Duration of hypertension								
<6 months	149	38.0	132.2	-0.761	0.046			0.447
>6 months	121	39.0	139.5					
Body Mass Index (BMI)								
Underweight	103	38.0	126.4			11.78	3	0.008*
Normal	65	38.0	117.8					
Overweight	100	39.50	155.9					
Obese	2	39.50	158.7					

[a]Mann-Whitney U, [b]Kruskal Wallis, *Significant at *p* <0.05

Discussion

Our research aimed to describe self-care behavior among adults with hypertension. The importance of self-care in preventing high blood pressure cannot be overstated and is integral to managing hypertension. Lifestyle modifications, such as increased physical activity and better control of obesity, dyslipidemia, and diabetes mellitus, have been shown to provide cardiovascular health benefits (Gkaliagkousi et al., 2015). Self-care entails adopting healthy lifestyle practices, including maintaining an ideal body weight, consuming low-salt and low-cholesterol diets, engaging in regular physical activity or exercise, effective stress management, monitoring blood pressure, and adhering to treatment plans. These components are integral to hypertension management and should be achievable, especially for patients with grade I hypertension (blood pressure 140–159 mmHg / 90–99 mmHg) (James et al., 2014).

The results of our study indicated that self-care behavior among participants is associated with certain factors, such as ethnicity, marital status, and body mass index (BMI). These findings align with a prior study that also identified ethnicity, marital status, and BMI as factors influencing self-care behavior in adults with hypertension (Ademe et al., 2019; Istek & Karakurt, 2016; Kharisna et al., 2018; Nakarmi et al., 2023; Zeighami Mohamadi et al., 2015). Self-care management for patients with hypertension involves adhering to lifestyle modification recommendations aimed at controlling risk factors that can exacerbate high blood pressure and worsen the patient's hypertension. Therefore, if a patient can successfully adopt healthier lifestyle choices, it will also reflect their commitment to effective self-care. As described in the self-care model designed for hypertensive patients by previous research, individuals with hypertension should be capable of adjusting their lifestyle with the guidance and support of healthcare professionals within their local healthcare services (Sadeghi et al., 2013).

The study's results also revealed that a significant portion of the participants frequently engaged in routine physical activities (41.1%). This observation aligns with a previous study indicating a high occurrence of physical activity among adults with hypertension (Dun et al., 2021). Conversely, a different previous study showed a prevalent lack of physical activity among adults with hypertension (Rissardi et al., 2018). The differences in behavior between studies can be attributed to various factors, including cultural norms, societal values, economic conditions, healthcare systems, education, and government policies. These factors collectively shape the lifestyle choices and behaviors of individuals within each country (Barnett et al., 2017; Smith et al., 2017).

Furthermore, the findings from our study revealed that a noteworthy portion of the participants at times limit their consumption of high-salt condiments (47%). In contrast, a prior study indicated that nearly three-quarters of hypertensive patients attending the hypertension clinic continued to consume high-salt diets. Most patients, even when aware of the impact of dietary salt on blood pressure, disregarded the need to restrict their salt intake (Peera Buranakitjaroen & Phoojaroenchanachai, 2013). Similarly, this study result showed a significant number of participants occasionally manage their total caloric fat intake (51.5%). Nonetheless, a previous study demonstrated that individuals with hypertension displayed suboptimal dietary habits, including inadequate consumption of fruits, vegetables, and whole grains (Thout et al., 2023).

Additionally, our findings showed that the majority of the participants occasionally refrained from smoking (52.6%) and engaged in periodic blood pressure monitoring (54.4%). Furthermore, it was noted that a noteworthy percentage of individuals with hypertension at times failed to adhere to their

prescribed medication (48.5%), and maintaining weight was intermittently practiced by 42.2% of the participants. Situational stress monitoring is periodically undertaken by 41.5% of the participants, and sporadic visits to healthcare professionals are made by 42.6% of them. These findings are consistent with a previous study, suggesting that overall hypertension self-management was generally adequate. This outcome may be attributed to the cumulative effect of years of exposure to both passive and active health education and counseling initiatives worldwide, wherein patients have reported a high level of satisfaction with the care provided for their blood pressure control (Konlan & Shin, 2023; Oluwole et al., 2019; Wondmieneh et al., 2021).

To sum up, the results of this study indicated that self-care behavior among participants was associated with certain factors, such as ethnicity, marital status, and body mass index (BMI). This highlights the significance of tailoring hypertension management strategies to address these specific factors, enabling patients to make lifestyle modifications that effectively lower and control their blood pressure. This study emphasizes the need for patients to adopt healthier habits, including dietary improvements, regular physical activity, stress management, and adherence to prescribed treatment regimens.

Implications for Nursing Practices

One key takeaway for nursing practice from this research is the need to customize interventions to address the various factors (ethnicity, marital status, and body mass index (BMI)) influencing self-care behaviors in adults with hypertension. Nurses and other healthcare professionals should consider these factors when creating personalized care plans. Understanding the impact of marital status and BMI on self-care, nurses can develop focused strategies to support married individuals and those with higher BMI. This could involve using marital support to improve medication adherence and lifestyle changes, as well as prioritizing weight management and physical activity for patients with higher BMI. Additionally, the study underscores the importance of patient education and empowerment. Nurses can also educate patients about self-care's importance, explaining how different factors affect hypertension management. Tailored guidance based on individual traits can enhance patients' motivation and confidence in adopting healthier practices. By focusing on comprehensive self-care support and considering the interplay of various influencing factors, nurses can contribute to more effective hypertension management and better overall patient outcomes.

Limitations

The limitations of this study are its reliance on self-reported data, which may introduce a degree of response bias and inaccuracies in participants' accounts of their self-care behaviors. Individuals might provide socially desirable responses or unintentionally misreport their practices, leading to potential inconsistencies between reported behaviors and actual actions. This could impact the accuracy and reliability of the findings, thereby affecting the validity of the study's conclusions. Moreover, the study's cross-sectional design hinders establishing causal connections between identified factors and self-care behaviors. While links between variables were noted, the sequence of events remains unclear. Longitudinal or experimental designs are needed for more robust cause-and-effect insights. The study's narrow focus on a particular ethnic group or region might limit generalizability due to cultural and systemic variations impacting health behaviors. Thus, care is necessary in applying findings to diverse contexts. Lastly, the study's predefined factors may exclude other influential variables, limiting a comprehensive understanding of self-care practices and their determinants in hypertensive patients.

Conclusion

This research employed a qualitative descriptive approach to explore themes that provide a comprehensive understanding of Thai fathers' experiences in supporting their partners' breastfeeding journeys. The findings highlight the eagerness of Thai fathers to support breastfeeding and emphasize the need for nurses, midwives, and other healthcare providers to offer additional education and support to assist them in their roles as supportive partners to mothers.

Declaration of Conflicting Interest

The authors affirm that there were no financial or commercial conflicts of interest throughout this study and state that they have no competing interests with the funders.

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Authors' Contributions

All authors contributed equally in this study in substantial contributions to the conception or design of the work, analysis or interpretation of data for the work, drafting of the work, and final approval of the version to be published.

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Data Availability

The datasets generated during and analyzed during the current study are available from the corresponding author upon reasonable request.

Declaration of Use of AI in Scientific Writing

In the research, AI tools were employed to improve the clarity of language. However, the authors later examined all interpretations to ensure their accuracy.

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