Research Article

Self-Care in Patients With Hypertension in Indonesia

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Abstract. Hypertension or elevated blood pressure is one of the leading causes of premature death worldwide. One strategy to better treat hypertension is to involve patients in their own self-care. This cross-sectional descriptive study was conducted in West Java, Indonesia, from June to July 2021. A convenience sample of 144 adults with hypertension was used. The inclusion criteria were: people aged 35 to 65; prescribed two or fewer antihypertensive drugs for hypertension; with a blood pressure of more than 140/90 mm Hg at baseline; able to control their blood pressure and self-titrate medicine; and able to read and write in Bahasa Indonesia. The SC-HI is a 24-item questionnaire that assesses self-care in hypertension on three dimensions: self-care maintenance, management, and confidence. Linear regression analyses were used to investigate self-care and its associated factors. The average age of the patients was 55.67 ± 10.65 years, 59.7% were female, 77.8% were married, and 48.6% had finished secondary school. The mean overall self-care score among the hypertensive patients was 2.43 (SD = 1.26). The self-care domain with the lowest mean score was in confidence (mean = 2.12, SD = 1.96) and the highest score was in maintenance (mean = 2.86, SD = 2.01). Gender, education level, and duration of hypertension contributed significantly to the variance in self-care with an R-squared of 23.4%. We found that the level of self-care in the hypertensive patients in general was inadequate. Patients should be educated and counseled about the importance of adherence to self-care in the management of hypertension.

Keywords: self-care, hypertension, self-management

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1. Introduction

Hypertension or elevated blood pressure is a serious medical condition that significantly increases the risk of heart attack, stroke, kidney failure and blindness. It is one of the leading causes of premature death worldwide [1]. The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure(JNC-8) guidelines classify as normal Blood Pressure (BP) levels of less than 130/85 mmHg, while those of 130 to 139 mmHg systolic and/or 85 to 89 mmHg diastolic pre-hypertensive, and those of more than 140/90 mmHg as hypertensive [2].

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Globally, hypertension is estimated at 26 % of the world's population (972 million people), and the incidence is expect Additionally, studies have showed hypertension is one of the most common causes of cardiovascular disease [3,4]. Asian countries with the highest prevalence of hypertension were Japan at 60% and followed by Pakistan (50,3%), Korea (32,9% in male and 23.7% in women), Hong Kong (31.6%), Malaysia (30.3%), and India (29.8%) while Indonesia ranked 8th at 26.5% [5]. Research in Indonesia found that hypertension of adults $\geq$ 18 years 25.8% in 2013 and increased to 34.1% In 2018 [6]. In addition, many of hypertension in Indonesia are underdiagnosed that affected to delay receiving treatment. Currently, the treatment for hypertension were focus on pharmacological approach.

One strategy to better treat hypertension, according to the World Health Organization (WHO), is to involve patients in their own self-care surveillance [7,8]. Self-care refers to maintaining health, monitoring for symptoms, and acting on these symptoms quickly to prevent decompensation [9]. Patients are advised to monitor their blood pressure carefully. At the same time, on medications, comply with lifestyle changes. However, in many hypertension patients, the compliance rate to self-care behaviours such as weight control, low salt intake, physical activity, and drug intake was lower [10]. In people with hypertension, poor self-care has substantial health outcomes, including elevated hospital admissions [11] and an increased risk of stroke and myocardial infarction [12,13]. Furthermore, self-care practices have been identified as one of the most important elements in reducing high blood pressure in several research [8,14,15].

There are many factors that contribute to uncontrolled hypertension or under treatment and poor self-care -management of hypertension among hypertension patients. According to Mu and Mukamal (2016) some common reasons of no compliance to blood pressure treatment and self-care were the impact of side effects from medications, a patient's informed decision declining, poor control of lifestyle intervention including poor diet control and physical activities. Many studies suggested that chronic illnesses require patient's engagement to achieve maximum benefit and control of the condition. Study by Kaplan et al, (2017) identified a person's engagement as an indicator of high-quality care, lower cost, and better health. Thus, this implies that the higher the engagement the better the outcomes (Kaplan et al, 2017). Many supportive evidence showed evidence on telehealth and m-health can be used as an effective method to facilitate patient engagement. Whelton et al., (2017), clarified the effects of telehealth interventions were significantly reduced blood pressure and improved blood pressure self-monitoring. And the study concluded that telehealth with cointerventions has been shown to be an effective mediator in the management of hypertension (Whelton et al., 2017). Thus,

this study aimed to examine self-care and its associated factors among patients with hypertension in Indonesia

2. Methods

2.1. Sample and Design

This cross-sectional descriptive study was conducted in West Java, Indonesia, from June to July 2021. A convenience sample of 144 adults with hypertension was used to assess the psychometric properties of the inventory. Individuals were recruited directly from outpatient clinical settings from hospitals in Karawang, West Java, Indonesia, using a google form, a web-based survey. The inclusion criteria were: people age 35 to 65, diagnosed with two or less antihypertensive drugs for hypertension, had a blood pressure of more than 140/90 mm Hg at baseline and were able to control their blood pressure and self-titrate medicine, and able to read and write in Bahasa Indonesia. Data was collected from March to April 2021.

2.2. Instrument

The sociodemographic and clinical survey contained a closed question about demographic and clinical details such as patient age, sex, educational standard, marital hypertension status, and medication numbers.

The SC-HI is a 24-item questionnaire that assesses self-care in hypertensive on three dimensions: self-care maintenance, management, and confidence. Patients who use the instrument complete it by indicating how frequently they used the scale; it includes Likert-type scales that range from "rarely or never" (1) to "always or daily" (4) for every question except two for which answers are marked with a Likert-type scale from "unrecognized" (0) to "very quickly" (4) and "nothing tried" (0) to "very sure" (4). To accomplish the self-care confidence dimension, respondents select from a range of Likert-type answers ranging from "not confident" (1) to "extremely confident" (4). The scores of each scale range from 0 to 100, with higher scores showing better attention to themselves. A scoring of 70 or higher is deemed sufficient. A single-dimensional factor of confidence and consistency has obtained every aspect of self-care (Alpha=.83) [16]

2.3. Ethical consideration

The study has been authorized in compliance with ethical standards by an affiliated university's ethical committee. Patients were given informed consent forms and surveys to sign. Everyone who participated was assured of secrecy and the opportunity to decline or withdraw completely independently and without penalty at any moment.

2.4. Data collection procedure

Patients completed the surveys while a regular visit to the outpatient clinics at the studied hospital. Researchers conducted two rounds of a questionnaire survey on patients in order to establish test-retest reliability. SC-HI and clinical and demographic characteristics questionnaires were included in the first list of questions.

2.5. Data analysis

This study was employed by the ANOVA or independent t test to describe the average quotas for different demographic and clinical categories. Linear regression analyses were used to investigate self-care and its associated factors. The statistical analyses were performed using SPSS for Windows (22.0), with 0.05 being considered statistically significant.

3. Results

About 144 participants join in this study. Patients' average age was 55.67 ± 10.65 years, 59.7% were female, 77.8% were married, and 48.6% had finished secondary school. The mean duration of hypertension was 7.38 ± 3.55 years. The average number of antihypertensive medications taken by patients was 3.11 (SD=1.54). Gender, education level, and duration of hypertension was associated with self-care (Table 1).

Table 2 presents descriptive statistic of self-care in studied participants. The mean overall self-care score among hypertensive patients was 2.43 (SD=1.26). The lowest mean score was self-care confidence (Mean= 2.12, SD=1.96) and the highest score of self-care domain was self-care maintenance (Mean=2.86, SD=2.01).

Table 3 shows simple linear regression analysis results of self-care. Gender, education level, and duration of hypertension was associated contributed significantly to the variance in self-care with R square was 23.4% (Table 3).

TABLE 1: Sociodemographic characteristics of the sample (N = 144).

Variables			Self-care	
	n (%)	Mean	SD	*p*-value
Age, years	55.67 ± 10.65			0.324
Female	88 (59.7%)	2.54	1.32	0.022
Married	112 (77.8%)	2.17	1.02	0.061
Education Attainment				
Primary school	46 (31.9%)	2.34	1.05	0.021
Secondary school	70 (48.6%)	2.57	1.08	
Higher than secondary school	28 (19.4%)	3.04	1.22	
Duration of Hypertension, years	7.38 ± 3.55			0.002
Antihypertensive medication	3.11 ± 1.54			0.087

TABLE 2: A descriptive statistic of self-care in studied participants (n=120)

Scale	Mean	SD
Overall score	2.43	1.26
Self-care Maintenance	2.86	1.04
Self-care management	2.37	1.89
Self-care confidence	2.12	1.96

4. Discussion

We found that self-care level of hypertensive patients in general is inadequate. Our results also revealed insufficient self-care practices of hypertension patients towards their BP control. According to [17] the ratios for selfcare level were low in terms of medication adherence, healthful diet, physical activity, and weight management (less than 50%) and were moderate regarding non-smoking (more than 50%). Moreover, in many hypertension patients, the compliance rate to self-care behaviours such as weight control, low salt intake, physical activity, and drug intake was lower [10].

[18] reveals poor awareness level of the participants. This is fairly consistent with the findings of another study which has also narrated inadequate awareness among hypertensive patients [19]. However, this is incompatible with the international studies

TABLE 3: Simple linear regression analysis results of patient safety culture (n=220)

Variable	Overall score ß (SE)	*p*-value
Gender	0.32 (0.05)	0.001
Education level	0.39 (0.08)	0.001
Duration of Hypertension	0.45 (0.06)	0.001
R^2	0.324	

conducted in China [20] and USA [21] which have reported improved awareness and knowledge. These differences in results could be attributed to significant difference in literacy rates as more than half of the participants of our study had no education.

Self-care behavior is an important activity undertaken by an individual in order to improve health or prevent disease [22]. Selfcare are crucial for the prevention and management of hypertension [8]. Collective evidence revealed that adherence to self-care lowers blood pressure, increases the efficacy of antihypertensive medications, and reduces the complications and overall mortality associated with Hypertension [23].

In people with hypertension, poor self-care has substantial health outcomes, including elevated hospital admissions [11] and an increased risk of stroke and myocardial infarction [12,13]. However, high quality of selfcare results in a lower incidence of comorbidities [24], and minimizing complications associated with Hypertension is a priority [25]. Many factors including socioeconomic status, belief about medications, comorbidity, availability of medications, access to healthcare, level of health literacy, number of medications, duration of therapy, age, gender, culture, educational status, and knowledge of the disease and treatment have been associated with the rate of adherence to selfcare.

There were a few limitations to our study. Most of the participants belonged to low socioeconomic status and low education. So, the results cannot be generalized to the entire population.

5. Conclusion

We found that self-care level of hypertensive patients in general is inadequate. Gender, education level, and duration of hypertension was associated with self-care. Healthcare providers should therefore improve their actions and also their communications with the patient to ensure a better influence on self-care behaviors. Educational programs for the youth and also the elderly should also be expanded. health care providers should pay more attention to patients at risk of having low self-care adherence. Patients should be educated and counseled about the importance of adherence to selfcare in the management of hypertension. Healthcare providers and policymakers should design educational programs that are feasible to be implemented in populations with a low level of literacy.

Conflict of interest

None.

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