Journal of İnönü University Health Services Vocational School
İnönü Üniversitesi Sağlık Hizmetleri Meslek Yüksekokulu Dergisi

e-ISSN: 2147-7892 Volume 13, Issue 3 (2025) 676-692 doi: 10.33715/inonusaglik.1641779

Research Article

DETERMINING THE SELF-CARE PROFILES IN HYPERTENSIVE PATIENTS

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Article Info

Received: *17 February 2025*
Accepted: *01 September 2025*

Keywords

Behavior,
Hypertension,
Motivation,
Self-care,
Self-efficacy.

ABSTRACT

This study aims to assess the self-care profile of patients diagnosed with hypertension. The research was descriptive and cross-sectional and conducted between August 2024 and January 2025 with 209 patients diagnosed with hypertension who voluntarily participated. Data were obtained using a "Patient Information Form" and the "Hypertension Self-care Profile Scale." The data were analyzed using IBM SPSS version 22.0. The findings revealed that the total mean score of the Hypertension Self-care Profile Scale was 168.46 (SD: 24.64). Among the subscales, the mean score for self-efficacy was 55.16 (SD: 8.71), for behavior was 51.79 (SD: 9.84), and for motivation was 61.51 (SD: 8.03). A positive correlation was observed between the overall self-care profile and its subscales. This study determined that self-efficacy and behavior subscales were at a moderate level, whereas the motivation subscale was at a high level. Regular physical activity, healthy eating, limiting salt intake, medication adherence, stress management, blood pressure monitoring, weight control, and strengthening social support systems are recommended to enhance the levels of self-efficacy, behavior, and motivation subscales in hypertensive patients.

INTRODUCTION

Hypertension is the most prevalent cardiovascular disease worldwide and is associated with long-term severe morbidity if left untreated (Çelik Ayar & Mutluay Yayla, 2024). It is a common public health issue with increasing prevalence as age advances (WHO, 2023). Hypertension, due to its complications, significantly contributes to global mortality, accounting for approximately 9.4 million deaths annually (Kes & Gökdoğan, 2020). According to the 2023 data from the Turkish Statistical Institute, circulatory system diseases are the leading cause of death in Türkiye, accounting for 33.4% of all deaths. Among these, hypertensive disorders rank fourth, with a rate of 9.6% (TUIK, 2024). The WHO reports that 1.28 billion individuals aged 30–79 years are living with hypertension, the majority residing in low- and middle-income countries (WHO, 2023). The primary goal in managing hypertensive patients is to maintain systolic blood pressure between 90–140 mmHg and diastolic pressure between 50–90 mmHg to reduce morbidity and mortality (Durmaz & Arslan, 2017).

Elevated blood pressure can gradually impair an individual's health and quality of life, and adversely affect self-care behaviors. Self-care is defined as "the actions individuals initiate

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and perform on their own behalf in maintaining life, health, and well-being." A lack of self-care may negatively influence patients' health and overall well-being (Tan et al., 2021). In individuals with hypertension, self-care is not limited to personal health behaviors; it is also shaped by various individual characteristics, such as age, gender, education level, lifestyle, presence of chronic diseases, social support, and motivation. These factors can influence the self-care practices hypertensive individuals employ to manage their blood pressure (Tan et al., 2021; Türker, 2024; Wondmieneh et al., 2021).

Effective blood pressure management requires individuals diagnosed with hypertension to adopt self-care practices, including regular physical activity, smoking and alcohol cessation, weight management, reduced salt intake, dietary adherence, medication compliance, home blood pressure monitoring, attending regular medical check-ups, and stress management (Williams et al., 2018). Although pharmacological treatment is commonly used in managing hypertension, medication alone is often insufficient over the course of the disease (Ding et al., 2018). In fact, antihypertensive medication alone proves effective in only one-fifth of men and one-fourth of women diagnosed with hypertension (WHO, 2023).

Encouraging individuals' active participation in preserving their health is crucial for achieving a healthier society. To realize this goal, individuals need to be equipped with the necessary knowledge and skills to sustain self-care. Effective self-care management may facilitate blood pressure control, reduce hospital admissions and readmissions, limit disease-related complications, prevent dependence, improve quality of life, and decrease healthcare costs (Hacıhasanoğlu Aşılar, 2015; Hani et al., 2024; Kurt & Gurdogan, 2022). A review of the literature reveals varying levels of self-care among individuals with hypertension; some studies report low (Salim et al., 2019), moderate (Eminağa Yaşar, 2024; Upoyo et al., 2024), or high (Hani et al., 2024; Wee et al., 2024) self-care levels. These differences may be attributed to a lack of motivation to change behavior. Therefore, enhancing motivation and promoting engagement in self-care behaviors may facilitate the development of self-efficacy. Self-efficacy refers to an individual's confidence and perceived capability to perform specific actions required to achieve designated performance outcomes (Khairy et al., 2021). Therefore, to enhance care and mitigate complications in individuals with hypertension, assessing their self-care practices and self-efficacy levels is crucial. Such assessments allow healthcare professionals to tailor interventions, provide effective patient education, and empower individuals with the necessary tools to manage their health (Hani et al., 2024). While several studies in Türkiye have examined aspects of motivation, self-efficacy, and behavior related to self-care in individuals with hypertension, these studies have not holistically addressed all

variables together. This study aimed to determine the self-care profile levels of patients diagnosed with hypertension.

Research Questions

1. What is the self-care profile of hypertensive patients based on their sociodemographic characteristics?
2. What is the level of motivation among hypertensive patients?
3. What is the level of self-care behaviors among hypertensive patients?
4. What is the level of self-efficacy among hypertensive patients?

MATERIAL AND METHOD

Aim and Design

This study employed a descriptive and cross-sectional design. It was conducted to determine the self-care profile of patients diagnosed with hypertension.

Study Population and Sample

The study population consisted of patients diagnosed with hypertension (N=450) who were hospitalized in the cardiology and internal medicine departments of a training and research hospital located in eastern Türkiye between August 2024 and December 2024. The sample was selected using a simple random sampling method from the target population. After data collection was completed, a post hoc power analysis was conducted. Considering the effect size obtained for correlation analysis under the t-test (Cohen's d = 0.25) and the sample size, the statistical power of the study was calculated at a 95% confidence level. The analysis, performed using the G*Power 3.1 software, indicated a statistical power of 96%. This result confirms that the sample size of 209 patients was sufficient to test the study's main aim (Çelik Ayar & Mutluay Yayla, 2024).

Data Collection Tools

Data were collected using the "Patient Descriptive Information Form" and the "Hypertension Self-Care Profile Scale."

Patient Descriptive Information Form

This form was developed by the researchers based on relevant literature and includes 18 questions on variables, such as gender, age, height, weight, marital status, educational background, occupation, income status, duration of hypertension diagnosis and medication use,

and presence of other chronic diseases (Hani et al., 2024; Kes & Gökdoğan, 2020; Türker, 2024).

Hypertension Self-care Profile Scale

The scale was originally developed by Han et al. (Han et al., 2014) and adapted into Turkish by Kes and Gökdoğan in 2020 with proven validity and reliability (Kes & Gökdoğan, 2020). It consists of three subscales: behavior, motivation, and self-efficacy. The behavior subscale is rated on a 4-point Likert scale (1 = never, 4 = very often), the motivation subscale (1 = not important, 4 = very important), and the self-efficacy subscale (1 = not sure, 4 = very sure). The scale includes 20 items, with total scores for each subscale ranging from 20 to 80; higher scores indicate better self-care practices (Kes & Gökdoğan, 2020). In the original study, Cronbach's alpha coefficients ranged from 0.83 to 0.93, while in the present study, it was 0.91.

Data Collection

Before data collection, participants were informed about the purpose of this study and asked to sign a written informed consent form. Data were collected through face-to-face interviews with patients hospitalized in the cardiology and internal medicine units during weekday working hours. Completing the questionnaire took approximately 10–15 minutes per patient.

Data Analysis

The data were analyzed using IBM SPSS version 22.0. Demographic and clinical characteristics of the patients were presented as frequencies, percentages, means, standard deviations, and minimum–maximum values. The normality of the data distribution was assessed through kurtosis and skewness values, and distributions were interpreted based on ±2 thresholds (Mallery, 2010; Tabachnick & Fidell, 2013). As the Hypertension Self-Care Profile Scale and its subdimensions showed normal distribution, Student's t-test was used to compare means between two groups, and one-way ANOVA was used to compare more than two groups. For the variables "occupation" and "type of chronic disease," since group sizes were fewer than 30, parametric test assumptions were not met, and the Kruskal-Wallis H test was used instead. Post-hoc pairwise comparisons were conducted using Tukey HSD for ANOVA and the Mann-Whitney U test for the Kruskal-Wallis H test. Pearson correlation coefficients were calculated to examine the relationships between age, duration of hypertension diagnosis, duration of medication use, and self-care profile scores. The strength of the correlation was interpreted as follows: 0.00 = no correlation; 0.01–0.29 = low; 0.30–0.70 = moderate; 0.71–0.99 = high; and

1.00 = perfect correlation (Köklü et al., 2006). A p-value of <0.05 was considered statistically significant for all analyses.

Limitations

This study was limited to data collected from a single hospital, which restricts the generalizability of the findings to a broader population. Using questionnaire-based self-report data may introduce potential recall bias and issues concerning accuracy.

Ethical Considerations

Ethical approval was obtained from the Ethics Committee of Batman University (Approval No: 2024/08, Decision No: 2024/08-09), along with institutional permission from the hospital.

RESULTS

Table 1. Demographic and Medical Characteristics of Participants (n=209)

Characteristics		**X (SD)**	**Min-Max**
Age		56.22 (10.17)	29-75
Duration since hypertension diagnosis		8.80 (6.33)	1- 30
Duration of hypertension medication use		8.71 (6.30)	1- 30
		n	**(%)**
Gender	Famale	96	45.9
	Male	113	54.1
Marital status	Married	200	95.7
	Single	9	4.3
Education level	Illiterate	56	26.8
	Primary-Middle school	37	17.7
	High school	86	41.1
	University and above	30	14.4
Occupation	Civil servant	47	22.5
	Worker	22	10.5
	Self-employed	43	20.6
	Retired	25	12.0
	Homewive	72	34.4
Income status	Income less than expenses	48	23.0
	Income equal to expenses	123	58.9
	Income more than expenses	38	18.2
BMI	Normal weight	88	42.1
	Overweight	88	42.1
	Obese	33	15.8
Presence of chronic diseases other than hypertension	Yes	122	58.4
	No	87	41.6
Type of additional chronic disease	DM	50	23.9
	HF	29	13.9
	COPD	13	6.2
	DM+HF	30	14.4

X: Mean; SD: Standard deviation; BMI: Body Mass Index; DM: Diabetes Mellitus; HF: Heart Failure; COPD: Chronic Obstructive Pulmonary Disease

The mean age of the 209 patients with hypertension who participated in this study was 56.22 years (SD = 10.17). The mean duration since hypertension diagnosis was 8.80 years (SD = 6.33), and the mean duration of antihypertensive medication use was 8.71 years (SD = 6.30). Of the participants, 54.1% were male, 95.7% were married, and 41.1% had completed high school education. Additionally, 34.4% were housewives, and 58.9% reported having income equal to their expenses. The findings showed that 42.1% of the patients were either of normal weight or overweight, and 58.4% had at least one chronic condition in addition to hypertension, with diabetes being the most common (23.9%). Moreover, 52.2% of the participants reported regularly measuring their blood pressure, 91.4% regularly attended medical check-ups, and 78.9% adhered to their prescribed medications (Table 1).

Table 2. Scores of the Hypertension Self-Care Profile and Its Subscales (n = 209)

	Min	**Max**	**X**	**SD**	**Skewness**		**Kurtosis**	
					Statistic	Std. Error	Statistic	Std. Error
Self-Efficacy Subscale	38.00	79.00	55.16	8.71	.927	.168	.571	.335
Behavior Subscale	36.00	75.00	51.79	9.84	1.248	.168	.845	.335
Motivation Subscale	32.00	77.00	61.51	8.03	-.147	.168	.413	.335
Total Score of Hypertension Self-Care Profile	111.00	224.00	168.46	24.64	1.020	.168	.741	.335

X: Mean; SD: Standard deviation

The mean total score on the Hypertension Self-care Profile scale was 168.46 (SD = 24.64). Among the subdimensions of the self-care profile, the mean score for the self-efficacy subscale was 55.16 (SD = 8.71), the behavior subscale was 51.79 (SD = 9.84), and the motivation subscale was 61.51 (SD = 8.03) (Table 2).

Table 3. Correlation Analyses of the Hypertension Self-Care Profile and Its Subdimensions (n = 209)

		Self-Efficacy Subscale	**Behavior Subscale**	**Motivation Subscale**	**Total Score of Hypertension Self-Care Profile**
Age	r	-.441**	-.503**	-.295**	-.453**
	p	.000	.000	.000	.000
Duration since hypertension diagnosis	r	-.311**	-.397**	-.209**	-.337**
	p	.000	.000	.002	.000
Duration of hypertension medication use	r	-.325**	-.411**	-.214**	-.349**
	p	.000	.000	.002	.000
Self-Efficacy Subscale	r		.920**	.724**	.957**
	p		.000	.000	.000
Behavior Subscale	r			.701**	.953**
	p			.000	.000
Motivation Subscale	r				.862**
	p				.000

**p <0.05

A statistically significant, moderate negative correlation was found between age and self-efficacy, behavior, and total self-care profile scores ($p < 0.001$). The relationship between age and the motivation subdimension was also statistically significant but weak and negative ($p < 0.001$). Similarly, there were statistically significant moderate negative correlations between the duration of hypertension diagnosis and medication use with self-efficacy, behavior, and total self-care profile scores ($p < 0.001$). The associations between these durations and the motivation subdimension were also negative but weak ($p < 0.001$). These findings indicate that as age, duration of hypertension diagnosis, and duration of medication use increase, scores on the overall self-care profile and all subdimensions decrease (Table 3). A strong, positive, and statistically significant correlation was observed between self-efficacy and self-care behavior ($r = 0.920$, $p < 0.001$). Likewise, strong positive correlations were identified between self-efficacy and motivation ($r = 0.724$, $p < 0.001$) and between self-care behavior and motivation ($r = 0.701$, $p < 0.001$).

In terms of demographic variables, statistically significant differences were found in total self-care profile and subdimension scores according to gender, education level, occupation, and income status. Female participants had significantly lower total and subdimension scores than male participants ($p < 0.05$). Illiterate participants had lower self-care scores across all dimensions than other educational groups ($p < 0.05$). Regarding income, individuals with higher income had higher total and subdimension scores than those with lower income or income equal to expenses. Moreover, those whose income matched their expenses had higher scores than those whose income was insufficient ($p < 0.05$) (Table 4).

Occupational comparisons showed that housewives, retirees, and self-employed participants had significantly lower self-care profile scores than workers and civil servants. In addition, other variables, such as body mass index (BMI) and the presence of chronic disease besides hypertension, were found to affect self-care profile and subdimension scores significantly. Participants with obesity or additional chronic conditions had significantly lower self-care scores ($p < 0.05$) (Table 4).

Table 4. Comparison of Participants' Hypertension Self-Care Profile Scale Scores According to Demographic Characteristics

		Self-Efficacy Subscale		Behavior Subscale		Motivation Subscale		Total Score	
		X/Median	**SD/Min-Max**	**X/Median**	**SD/Min-Max**	**X/Median**	**SD/Min-Max**	**X/Median**	**SD/Min-Max**
Gender	Famale	53.65	7.04	49.70	7.93	59.88	7.19	163.25	20.21
	Male	56.45	9.75	53.55	10.94	62.89	8.47	172.90	27.16
	T	-2.336		-2.865		-2.738		-2.870	
	P	**.020**		**.005**		**.007**		**.005**	
Marital status	Married	53.00	38.00-79.00	49.00	36.00-75.00	61.00	32.00-77.00	164.00	111.00-224.00
	Single	53.00	45.00-56.00	48.00	41.00-53.00	60.00	53.00-64.00	163.00	147.00-166.00
	Z	-.915		-.982		-.867		-1.157	
	P	.360		.326		.386		.247	
Education level	Illiterate[#]	51.01	5.49	45.75	4.74	57.26	7.11	154.03	14.68
	Primary-Middle school	53.72	6.88	50.72	8.67	61.89	7.19	166.35	20.41
	High school	57.40	9.93	54.53	10.92	63.68	7.97	175.62	27.05
	University and above	58.26	8.83	56.50	9.58	62.73	8.14	177.50	25.31
	F	8.579		13.852		8.364		11.861	
	P	**.000**		**.000**		**.000**		**.000**	
Occupation	Civil servant	60.00	41.00-74.00	55.00	44.00-75.00	65.00	47.00-75.00	176.00	134.00-224.00
	Worker	61.00	38.00-79.00	59.00	40.00-75.00	65.00	40.00-77.00	185.00	118.00-224.00
	Self-employed[#]	50.00	38.00-74.00	48.00	40.00-75.00	61.00	48.00-75.00	157.00	130.00-224.00
	Retired[#]	54.00	47.00-74.00	49.00	36.00-75.00	61.00	51.00-75.00	166.00	141.00-224.00
	Homewive[#]	52.00	39.00-74.00	47.50	36.00-75.00	61.00	32.00-77.00	159.00	111.00-224.00
	Kw	34.173		55.302		15.940		34.100	
	P	**.000**		**.000**		**.003**		**.000**	
Income status	Income less than expenses	51.97	5.60	46.37	5.36	57.00	7.39	155.35	15.02
	Income equal to expenses[#]	53.04	6.96	49.64	6.74	60.74	6.85	163.43	18.02
	Income more than expenses[#]	66.07	8.72	65.57	10.47	69.68	6.46	201.34	25.27
	F	56.163		86.453		37.509		73.095	
	P	**.000**		**.000**		**.000**		**.000**	
BMI	Normal weight	56.09	9.06	53.11	10.60	61.27	8.54	170.47	26.75
	Overweight	55.76	9.25	52.35	10.14	63.01	7.95	171.12	25.08
	Obese[#]	51.12	4.04	46.75	3.50	58.15	5.60	156.03	10.07
	F	4.399		5.476		4.609		5.209	

		p	**.013**		**.005**		**.011**		**.006**	
Presence of chronic diseases other than hypertension	Yes		53.04	7.14	48.60	7.24	60.32	7.58	161.97	19.13
	No		58.14	9.81	56.25	11.22	63.17	8.39	177.57	28.46
		t	-4.356		-5.979		-2.555		-4.737	
		p	**.000**		**.000**		**.011**		**.000**	
Type of additional chronic disease	DM		51.0000	38.00-74.00	47.5000	32.00-77.00	60.0000	32.00-77.00	157.0000	111.00-224.00
	HF		53.0000	42.00-79.00	48.0000	40.00-68.00	62.0000	44.00-77.00	163.0000	131.00-224.00
	COPD		56.0000	46.00-59.00	49.0000	45.00-59.00	61.0000	51.00-64.00	166.0000	142.00-180.00
	DM+HF		52.0000	42.00-63.00	46.5000	36.00-56.00	60.0000	50.00-74.00	157.5000	138.00-189.00
		KW	7.446		1.513		4.493		4.242	
		p	.059		.469		.213		.120	

[#]Based on Tukey HSD (ANOVA) and pairwise comparison (Kruskal-Wallis H) results, the groups causing the differences are indicated. F: ANOVA; T: Mann-Whitney U; BMI: Body Mass Index; DM: Diabetes Mellitus; HF: Heart Failure; COPD: Chronic Obstructive Pulmonary Disease.

DISCUSSION

Uncontrolled hypertension is a global health concern and, if left untreated, can lead to serious complications and mortality. While pharmacological treatment plays an essential role in the management of hypertension, medication alone is often insufficient to ensure long-term blood pressure control (Hani et al., 2024). Individuals can maintain optimal blood pressure not only through medication adherence but also by adopting healthy lifestyle behaviors, such as maintaining an ideal body weight, following low-sodium and low-cholesterol diets, engaging in regular physical activity or exercise, practicing stress management, monitoring blood pressure regularly, and adhering to treatment plans (Komaç & Duru, 2024). In this context, adopting and implementing self-care behaviors are critical components in effective hypertension management. This study examined the self-care profiles of patients diagnosed with hypertension.

In our study, the self-efficacy subdimension of the hypertension self-care profile was at a moderate level. Similarly, several studies conducted in Türkiye have reported moderate self-efficacy levels in hypertensive patients, such as those by Soylu and Tanrıverdi (56.11), Metin et al. (53.86), and Karataş et al. (57.85) (Karataş et al., 2024; Metin et al., 2023; Soylu & Tanrıverdi, 2024). Furthermore, in a randomized controlled trial conducted by Komaç and Duru (2024), based on the health belief model and motivational interviewing, the pre-test self-efficacy scores were 60.55 for the intervention group and 58.50 for the control group, indicating a moderate level of self-efficacy (Komaç & Duru, 2024).

When examining international studies, self-efficacy levels were also moderate in Indonesia by Upoyo et al. (52.3) and Putri-Noor et al. (51.37), high in Singapore by Lim et al. (61.7) and Wee et al. (65); and high in Jordan by Hani et al. (70). In contrast, lower self-efficacy levels were reported in Saudi Arabia by AlHadlaq et al. and in Malaysia by Salim et al. (42.5) (AlHadlaq et al., 2019; Hani et al., 2024; Lim et al., 2024; Putri Noor et al., 2024; Salim et al., 2019; Upoyo et al., 2024; Wee et al., 2024). Additionally, a systematic review by Tan et al. (2021), which included 21 studies, concluded that self-efficacy levels were generally low (Tan et al., 2021). These discrepancies may be attributed to differences in lifestyle, dietary habits, educational levels, physical activity routines, disease adaptation, and awareness of hypertension management.

Self-care behaviors in individuals with hypertension encompass a wide range of practices that are crucial for disease control. These include sodium and fat restriction, regular physical activity, avoiding tobacco and alcohol, weight management, adequate intake of potassium and

calcium, attending routine health check-ups, stress management, home monitoring and recording of blood pressure, and adherence to prescribed antihypertensive medication (Ademe et al., 2019; Türker, 2024).

In our study, the self-care behavior subdimension of the hypertension self-care profile was moderate. Similarly, studies conducted in Türkiye have reported comparable findings. Eminağa-Yaşar (54.82) and Türker (46.24) both reported moderate levels of self-care behavior among hypertensive patients (Eminağa Yaşar, 2024; Türker, 2024). In contrast, the study by Komaç and Duru (2024) reported higher levels of self-care behavior, with pre-test scores of 60.55 for the intervention group and 58.50 for the control group, indicating high levels of self-care (Komaç & Duru, 2024). Internationally, the level of self-care behavior has also varied. Studies conducted in Jordan by Hani et al. (49.7), in Indonesia by Upoyo et al. (49.3), Sarfika et al. (49.78), Su'ud et al. (56.4), and Putri-Noor et al. (48.56), and in Singapore by Wee et al. (59), have all reported moderate levels of self-care behavior (Hani et al., 2024; Putri Noor et al., 2024; Sarfika et al., 2023; Su'ud, Murtaqib, & Kushariyadi, 2020; Upoyo et al., 2024; Wee et al., 2024). On the other hand, studies in Malaysia by Salim et al. (36.4), in Ethiopia by Ademe et al. (37.7), and in Nepal by Acharya et al. have indicated low levels of self-care behavior (Acharya et al., 2022; Ademe et al., 2019; Salim et al., 2019). Variations in behavioral levels among hypertensive patients are thought to be associated with differences in health literacy, socioeconomic status, cultural practices, education level, access to healthcare services, and lifestyle factors (Eminağa Yaşar, 2024; Sarfika et al., 2023).

Motivation is a dynamic process that energizes individuals and guides them toward selecting desired behaviors and achieving established goals. In hypertensive patients, social support enhances motivation and contributes to improvements in self-efficacy and behavioral performance. Social support can be provided in various forms, including emotional, informational, and practical assistance. Emotional support improves psychological well-being, while informational support enhances adherence to treatment. In addition, physical support reinforces a patient's sense of self-efficacy, thereby promoting healthy lifestyle behaviors. These factors collectively strengthen patient motivation and positively impact self-care behaviors (Khairy et al., 2021; Upoyo et al., 2024). In our study, the motivation subdimension of the hypertension self-care profile was at a high level. This finding is consistent with previous research. For example, Komaç and Duru (2024) reported high motivation levels, with pre-test scores of 67.97 in the intervention group and 67.35 in the control group. Similarly, Yıldırım-Keskin et al. (2024) reported scores of 62.4 and 61.97 in the intervention and control groups, respectively, indicating high motivation (Yıldırım-Keskin et al., 2024; Komaç & Duru, 2024).

Wee et al. (68) and Su'ud et al. (59.9) also found high levels of motivation among patients (Su'ud et al., 2020; Wee et al., 2024). In contrast, studies by Hani et al. (59.7), Salim et al. (45.3), Upoyo et al. (56.9), and Putri-Noor et al. (55.35) reported moderate levels of motivation (Hani et al., 2024; Putri Noor et al., 2024; Upoyo et al., 2024; Salim et al., 2019). Differences in motivation levels among patients with hypertension may be influenced by factors such as the degree of social support within the family, living conditions, educational background, family structure, and socioeconomic status.

In our study, the overall hypertension self-care profile indicated that patients demonstrated a high level of self-care. The term "high level of self-care" refers to patients' consistent engagement in behaviors, such as adhering to healthy lifestyle practices, complying with treatment regimens, exercising regularly, limiting salt intake, and adhering to prescribed medication. This elevated score reflects the patients' awareness and proactive approach to hypertension management, as well as their strong motivation to maintain their health. Similarly, in the study by Komaç and Duru (2024), which was based on the Health Belief Model and motivational interviewing, hypertension patients in the intervention group scored 186.37, and those in the control group scored 182.47 on the self-care profile, indicating a high level of self-care (Komaç & Duru, 2024). Likewise, studies conducted in Jordan and Singapore also revealed high levels of self-care, with Hani et al. (179.4) and Wee et al. (192) reporting similar findings (Hani et al., 2024; Wee et al., 2024). In contrast, moderate levels of self-care were reported by Putri-Noor et al. (155.28) and Upoyo et al. (158.5), while Salim et al. (2019) reported low levels of self-care (124.2) (Putri Noor et al., 2024; Upoyo et al., 2024; Salim et al., 2019).

Our study also revealed that males had significantly higher self-care profile and subdimension (behavior, motivation, and self-efficacy) scores than females. Additionally, individuals with higher education levels, particularly those with a university degree or above, demonstrated significantly higher scores. Similarly, Hani et al. found that men had higher scores in both the overall self-care profile and its subdimensions, and Ademe et al. reported higher behavior scores among male participants (Ademe et al., 2019; Hani et al., 2024). In contrast, Salim et al. and Al Hadlaq et al. (2019) reported significantly higher self-care and motivation scores, respectively, among female participants (AlHadlaq et al., 2019; Salim et al., 2019). These discrepancies may be attributed to socio-cultural behavioral patterns, cultural structures, educational differences, and hormonal influences. Specifically, factors such as menopause, decreased testosterone levels, changes in thyroid function, and disruptions in metabolic processes may complicate self-care behaviors. Such hormonal changes can increase the

challenges individuals face in managing their health, making it more difficult to control chronic diseases like hypertension.

A review of the literature on education level supports our findings. Several studies have shown that higher levels of education are associated with better self-care and subdimension scores (Acharya et al., 2022; Lim et al., 2024; Sarfika et al., 2023). Increased educational attainment enhances skills, such as recognizing and managing complications, accessing and interpreting health information, and engaging in disease management, all of which contribute to improved self-care behaviors.

In our study, self-care and its subdimension scores were significantly higher among hypertensive patients who were employed as manual laborers, had a lower BMI, and reported higher income levels. In contrast, the literature reveals different findings regarding occupational groups. For example, Wee et al. reported higher self-care levels among unemployed individuals, Ademe et al. among government employees, and Eminağa-Yaşar among housewives (Ademe et al., 2019; Eminağa Yaşar, 2024; Wee et al., 2024). These discrepancies may be attributed to the differing impacts of occupational roles on individuals' lifestyles, health behaviors, and socioeconomic status. Manual laborers may benefit from regular income and easier access to healthcare services, whereas unemployed or homemaker individuals may face financial challenges and limited social support. Additionally, the nature of the work environment and access to social security among laborers might facilitate a more proactive approach to health management, thereby enhancing self-care behaviors.

Similarly, previous studies have indicated higher self-care scores among individuals with lower BMI (Eminağa Yaşar, 2024; Wee et al., 2024). However, contrary to our findings, other studies did not observe a significant difference among those with lower BMI (Acharya et al., 2022; Salim et al., 2019), while some reported significantly higher self-care levels among individuals with higher BMI (Sarfika et al., 2023). The variations in the relationship between BMI and self-care may stem from differences in socioeconomic status, physical activity levels, societal norms, and cultural influences. While individuals with lower BMI may generally maintain healthier lifestyle habits, those with higher BMI may become more focused on weight management and adopting healthy behaviors. Moreover, factors such as socioeconomic conditions, health status, and motivation levels could also influence the relationship between BMI and self-care. Consistent with our findings, prior research has also shown that individuals with higher income levels tend to demonstrate better self-care and subdimension scores (Ademe et al., 2019; AlHadlaq et al., 2019; Hani et al., 2024; Lim et al., 2024). Income level is known to influence health behaviors, as individuals with lower income may prioritize basic needs over

health-related concerns. This prioritization can create barriers to adherence to dietary restrictions, medication use, and effective hypertension management. Furthermore, as the economic burden of illness increases, the overall quality of health may be negatively affected.

Our study also found that hypertensive patients without comorbid chronic conditions had significantly higher self-care and subdimension scores. This finding is in line with Salim et al.'s (2019) study, which reported that patients without additional chronic diseases exhibited better self-care practices (Salim et al., 2019). One possible explanation is that the absence of comorbidities reduces medication burden, thereby having a less detrimental impact on quality of life and allowing for greater engagement in self-care behaviors.

In our study, a positive correlation was found among the subdimensions of motivation, self-efficacy, and behavior. This finding indicates that as individuals' motivation levels increase, their perceived self-efficacy and health-related behaviors also improve. In other words, higher motivation enhances individuals' self-efficacy, which contributes to adopting healthier behaviors. Similarly, studies by Hani et al. and Putri-Nor et al. reported positive relationships among these subdimensions (Hani et al., 2024; Putri Noor et al., 2024). Additionally, Su'ud et al. found a positive correlation between motivation and behavior subdimensions, Al-Hadlaq et al. between self-efficacy and behavior, and Tan et al.'s systematic review also reported a positive correlation between self-efficacy and behavior (AlHadlaq et al., 2019; Tan et al., 2021).

Our study also revealed a negative relationship between age and self-care levels and its subdimensions; that is, self-care decreases with increasing age. Consistent with our findings, studies conducted by Hani et al., Al-Hadlaq et al., and Lim et al. also reported negative correlations between age and self-care levels (AlHadlaq et al., 2019; Hani et al., 2024; Lim et al., 2024). This may be explained by factors, such as salt intake and regular medication adherence, among the most important factors affecting hypertension management. Older adults may experience forgetfulness regarding medication use or underestimate their salt consumption. Moreover, older adults generally have lower education levels compared to younger adults, and age-related hormonal changes are thought to affect self-care levels. Biological changes, such as menopause, decreased testosterone levels, altered thyroid function, and metabolic changes, can complicate health management in older individuals. These biological alterations may negatively impact self-care behaviors, including regulating salt intake, timely medication adherence, and maintaining healthy habits.

Furthermore, our study found a negative correlation between the duration since hypertension diagnosis and medication use, self-care levels, and their subdimensions. In other

words, patients who have been recently diagnosed with hypertension and have recently started medication exhibit higher self-care levels. Similarly, Al-Hadlaq et al. and Türker reported statistically significant negative associations, particularly in the behavior subdimension (AlHadlaq et al., 2019; Türker, 2024). This finding is interpreted as newly diagnosed patients demonstrating higher adherence to medication and disease management.

CONCLUSION

In this study, patients with hypertension had a high level of self-care, with moderate levels in the subdimensions of self-efficacy and motivation and a high level specifically in the motivation subdimension. A positive correlation was identified between the hypertension self-care profile and its subdimensions. Self-care levels and their subdimensions were statistically significantly higher among male patients, individuals with university or higher education, those employed as workers, individuals whose income exceeded their expenses, those with overweight BMI, and those without comorbid chronic diseases. These findings underscore the critical importance of enhancing self-care levels among patients with hypertension to achieve better disease control and prevent complications related to the condition. To improve self-care in hypertensive patients, it is recommended to plan educational interventions focusing on problem-solving skills, stress management, and motivational support systems. Furthermore, multidisciplinary interventions aimed at promoting behaviors, such as blood pressure monitoring, dietary regulation, exercise planning, and timely medication adherence, should be investigated. Finally, it is suggested that this study be replicated in different populations with larger sample sizes and using diverse research methodologies to strengthen and generalize the findings.

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