

# SAĞLIK BILIMLERİ ÜNİVERSITESİ HEMŞIRELİK DERGİSİ

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# Araştırma makalesi / Research article • DOI: 10.48071/sbuhemsirelik.1409462 Examination of Self-Care Behavior Profile and Self-Care Management in Hypertension Patients

Hipertansiyon Hastalarında Öz Bakım Davranış Profili ve Öz Bakım Yönetiminin İncelenmesi

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#### ABSTRACT

Introduction: The main purpose of disease management in hypertension, which is a chronic disease, is to ensure management through treatment and care behavior.

Aim: The aim of study was to investigate the effect and relationship between self-care behavior profiles of patients with hypertension on their self-care management.

Method: This descriptive study was conducted on 268 hypertension patients who applied to the cardiology outpatient clinic of a university hospital in Ankara between September 2022 and March 2023.

**Results:** The mean overall score of Self-Care Management in Chronic Diseases was 115.220 ± 23.745, while the mean of Hypertension Self-Care Profile Behavior Scale score was 46.246 ± 9.599. When the overall scores of the patients for the Hypertension Self-Care Profile Behavior Scale and the Self-Care Management in Chronic Diseases Scale were compared, a positive high-level correlation (r = 0.702; p < 0.05) was discovered. There was a strong correlation between self-care behavior and management in chronic diseases, according to regression analysis (F = 258.123; p < 0.05). The total change in self-care behavior level was explained by self-care management in chronic diseases by 49.1% ( $R^2 = 0.491$ ). Self-care management in chronic diseases increased the total level of self-care behavior ( $\beta = 0.702$ ).

**Conclusion:** As a result of the research, it was revealed that hypertension patients with good self-care behavior were able to control their condition better and had less difficulty in managing the disease. Therefore, strengthening patients' self-care behaviors in the management of hypertension is an important issue that nurses should focus on.

Keywords: Behavior; hypertension; management; nursing; self-care.

#### ÖZ

Giriş: Kronik bir hastalık olan hipertansiyonda hastalık yönetiminin temel amacı tedavi ve bakım davranışı ile yönetimin sağlanmasıdır.

Amaç: Çalışmanın amacı hipertansiyonlu hastaların öz bakım davranış profillerinin öz bakım yönetimi üzerindeki etkisini ve ilişkisini araştırmaktı.

Yöntem: Tanımlayıcı tipte olan bu çalışma, Eylül 2022 ile Mart 2023 tarihleri arasında Ankara'da bir üniversite hastanesinin kardiyoloji polikliniğine başvuran 268 hipertansiyon hastası ile yapıldı.

**Bulgular:** Kronik hastalıklarda öz bakım yönetimi genel puanı ortalaması 115,220 ± 23,745, Hipertansiyon Öz Bakım Profili Davranış Ölçeği puanı ise 46,246 ± 9,599 idi. Hastaların Hipertansiyon Öz Bakım Profili Davranış Ölçeği ile Kronik Hastalıklarda Öz Bakım Yönetimi Ölçeğinden aldıkları genel puanlar karşılaştırıldığında pozitif düzeyde yüksek düzeyde korelasyon (r = 0,702; p < 0,05) tespit edildi. Regresyon analizine göre kronik hastalıklarda öz bakım davranış ile öz bakım yönetimi arasında güçlü bir ilişki vardı (F = 258,123; p < 0,05). Öz bakım davranış düzeyindeki toplam değişim, kronik hastalıklarda öz bakım yönetimi ile %49,1 (R<sup>2</sup> = 0,491) oranında açıklandı. Kronik hastalıklarda öz bakım yönetimi öz bakım davranışını toplam düzevini arttırdı (β = 0,702).

**Sonuç:** Araştırma sonucunda öz bakım davranışı iyi olan hipertansiyon hastalarının durumlarını daha iyi kontrol edebildikleri ve hastalağı yönetmede daha az zorluk yaşadıkları ortaya çıktı. Bu nedenle hipertansiyonun yönetiminde hastaların öz bakım davranışlarının güçlendirilmesi hemşirelerin odaklanması gereken önemli bir konudur.

Anahtar Kelimeler: Davranış; hemşirelik; hipertansiyon; öz bakım; yönetim.



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# Introduction

Studies indicate that by 2025 nearly 30% of individuals worldwide will have hypertension (HTN), making it a significant chronic condition (World Health Organization, 2022). In Turkey, HTN has a major impact on morbidity and death rates and is the primary global risk factor for cardiovascular disease mortality and morbidity (Sengül et al., 2016; Roth et al., 2020). In order to treat adult hypertension, the Eighth Joint National Committee (JNC 8th) has produced evidence-based recommendations on treatment thresholds, targets, and drugs. For individuals with HTN, this advice suggests lifestyle changes as a crucial part of treatment. A Dietary Approaches to Stop Hypertension (DASH), maintaining a body mass index within normal ranges, cutting back on alcohol, lowering sodium intake to less than 2.4 grams per day, minimizing stress, monitoring blood pressure at home, and engaging in aerobic exercise for at least 30 minutes most days of the week are all examples of lifestyle adjustments (James et al., 2014; Williams et al., 2018). The primary objective of disease management in HTN is to provide therapy and care management, as is the case with all approaches to treating chronic disorders. The person with HTN must practice proper self-care and self-management behaviors in order to reach this objective. Randomized controlled trials have demonstrated the benefits of increased self-care behaviors on the management and treatment of hypertension (Dickinson et al., 2006). According to Hartweg (1990) and Han, Lee, Commodore-Mensah, and Kim (2014), Orem asserts that the foundation of self-care is the drive to start the required activities at the right moment in order to safeguard the person's health, life, and well-being and to alter behavior.

Self-management is the process of paying attention and responding realistically to one's own state so that decisions can be made, and tasks can be managed more effectively. The patient's selfcare behavior and self-care management abilities are crucial in the management of chronic diseases. To avoid complications or improve control of blood pressure in people with HTN, healthy behavior change is necessary. Self-care, which can be defined as the activities initiated and performed by individuals to maintain their lives, health and well-being, is the continuous participation of the individual in his/her own health. According to research, the majority of people who are aware of their sickness are unable to adopt disease-specific self-care behaviors and struggle to manage their disease-related self-care (Kaur, Rao, Radhakrishnan, Rajasekar & Gupte, 2012). By enhancing the self-care behavior profile of their patients, nurses can help patients control their disease (Bengtson & Drevenhorn, 2003). With this study, it is thought that the relationship between self-care behavior profiles and self-care management of hypertensive patients will be determined and the results will contribute to nursing care.

# Aim

The purpose of this study was to investigate the connection between patients' self-care behavior profiles and self-care management.

### **Research Questions**

1. What is the self-care behavior profile level in hypertension patients?

2. What is the level of self-care management in hypertension patients?

3. Is there a statistical significant difference between the selfcare behavior profile and self-care management according to the patients' socio-demographic and disease-related characteristics?

4. Is there a correlation between patients' self-care behavior profile and self-care management?

## Method

## **Study Design**

This descriptive cross-sectional study was conducted between September 2022 and March 2023.

### **Study Setting**

The study applied in the cardiology outpatient clinic of university hospital in Ankara.

#### Study Population and Sample

The number of subjects required for this study was calculated using G\*Power 3.1.9.7, with a significance level (a) of .05, power  $(1-\beta)$ of .80, mean effect size of 0.15, and eight independent variables (when used as seven general characteristics). The minimum sample size required for multiple regression and correlation analyses was 325 (Kalaycı, 2006; Faul, Erdfelder, Buchner & Lang, 2009). With a dropout rate of 20%, the final sample size was 260, and 268 subjects participated in the study. The inclusion criteria for participants were being at least 18 years of age, voluntarily participating in the study, taking antihypertensive medication, having a primary diagnosis of HTN, and being able to read and write Turkish. Individuals with secondary HTN, pregnant women, individuals with an acute or chronic illness (e.g., stroke, diabetes, heart failure, myocardial infarction, renal failure, or cancer), individuals with a psychiatric diagnosis, or individuals taking other medications (for chronic illnesses) were excluded.

#### **Data Collection Tools**

**Demographic Characteristics Form:** This was a form that the researcher created based on the literature. Closed-ended questions on the form asked about demographic and clinical information, including age, gender, education level, the number of children, employment status, the existence of additional diseases, and the date of diagnosis (Han et al., 2014).

**Hypertension Self-Care Profile Behavior Scale:** The motivational interview technique created by Han et al. was combined with Orem's self-care concept to create this instrument, which Kes and Gökdoğan tested for Turkish validity and reliability (Han et

al., 2014; Kes & Gökdoğan, 2020). Three sub-dimension of the scale were "behavior", "motivation", and "self-efficacy". Each is a 20-item Likert-type scale that assesses motivation, behavior change, and self-care habits. The scales' scores range from 20 to 80 points. Better self-care is indicated by a higher score. The Hypertension Self-Care Profile Behavior Scale used in this study had a Cronbach's alpha value of 0.91.

Self-Care Management in Chronic Diseases Scale: Hançerlioglu and Aykar Şenuzun conducted the validity and reliability study of the Self-Care Management in Chronic Diseases Scale in Turkish. "Social protection" and "self-protection" are the two sub-dimensions of the scale. The scale is a Likert-type scale. The range of possible total scores on the scale is from 35 to 175; as an individual's score rises, so does the degree to which they are managing their own care. The original scale's Cronbach alpha value was 0.75 (Hançerlioğlu & Şenuzun Aykar, 2018). The Cronbach's alpha was found to be 0.95 in this study.

### **Ethical Considerations**

Ethical approval was obtained from the Non-Interventional Ethics Committee of Lokman Hekim University (Date: 18.10.2022 and Decision No: 2022/172) by submitting an application prior to the study's launch. Permission was obtained from hospital administrators, and approval to use the scale was also obtained from the author. Information about the study was disclosed to the patients who volunteered to participate, and their verbal and written consents were obtained. The Declaration of Helsinki 2013 was followed when conducting the study.

#### **Data Collection**

During the treatment period, the patients were allowed to fill in the surveys by adjusting the time so as not to disrupt their treatment. The patients were informed that the data would be kept confidential and not shared with anyone. It was stated it may take 10-15 minutes to fill out the questionnaires. Face-to-face patient interviews served as the primary method of gathering these data.

### **Data Analysis**

Data were analyzed using the Statistical Package for the Social Sciences Version 24.0 (IBM Corp., Armonk, NY, USA). The descriptive features of the study participants were ascertained using frequency and percentage analyses, and the scale was examined using mean and standard deviation. The distribution of the research variables' kurtosis and skewness values were examined to see if they were regularly distributed. The variables were found to have a normal distribution (George & Mallery, 2010; Tabachnick, Fidell, & Ullman, 2013). The data were analyzed using parametric approaches. Through Pearson correlation and linear regression analysis, the connections between the dimensions affecting the patients' scale scores were investigated (Kalaycı, 2006). The differences in scale scores according to the descriptive features of the patients were investigated using the t-test, one-way analysis of variance (ANOVA), and post hoc (Tukey, LSD) analyses (Büyüköztürk, Çokluk & Köklü, 2018).

# Results

Of the patients who took part in the trial, 42.5% were over 65 and 66.4% of them were male. Academics made up 60.2% of the patients. Every participant was a married man or woman, and 61.9% of them had two children. Of the patients, 69.4% were unemployed. More than 50% of the participants had another chronic illness. In 84.3% of the participants, the diagnosis of HTN had been made four or more years previously (Table 1).

The mean Hypertension Self-Care Profile-Behavior score of the patients who participated in the study was  $46.246 \pm 9.599$ . The self-care behavior scores of patients aged 45-64 years were found to be lower than the self-care behavior scores of patients over 65 years, and the difference between the two groups was found to be statistically significant (p = 0.001). The Hypertension Self-Care Profile Behavior Scale scores of the patients who participated in the study did not differ significantly according to gender (p > 0.05). The self-care behavior scores of the patients were higher in the group with a university degree and a statistically significant difference was found between the groups (p = 0.001). It was found that the self-care behavior scores of patients with one child were higher than the other groups and the difference between the groups was statistically significant (p = 0.001).

There was no statistically significant difference between the selfcare behavior scores of employed and unemployed patients (p > 0.05). The self-care behavior scores of patients with another chronic disease did not differ significantly compared to the group without another chronic disease (p > 0.05). The total self-care behavior scores of the patients showed a significant difference according to the time of diagnosis. The reason for the difference was that the total self-care behavior scores of the patients with a diagnosis in the previous three years were higher than the total self-care behavior scores of the other groups and a statistically significant difference was found between the groups (p = 0.001) (Table 1).

The total average score for "total self-care management in chronic diseases" was  $115.220 \pm 23.745$ , for "self-protection" was  $67.810 \pm 13.794$ , and for "social protection" was  $47.410 \pm 10.311$ . The total self-care management in chronic diseases, self-protection and social protection scores of patients aged 45-64 years were lower than those aged over 65 years and a statistically significant difference was found between the groups (p = 0.001; p = 0.001; p = 0.001). The total self-care management in chronic diseases and self-protection scores of the patients did not differ significantly according to gender (p > 0.05). However, the social protection scores of men were lower than the social protection scores of women and a significant difference was found between the groups (p = 0.013). The total self-care management in chronic diseases, self-protection as a significant difference was found between the groups (p = 0.013). The total self-care management in chronic diseases, self-protection, and

Demographics			The Hypertension Self-Care Profile Behavior Scale	Self-Care Management in Chronic Diseases Scale	Self-Care Management in Chronic Diseases Self- Protection	Self-Care Management in Chronic Diseases Social Protection	
	n	%	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	
Age							
45-64 years	154	57.5	43.896 ± 10.118	106.470 ± 11.820	63.280 ± 8.365	43.190 ± 3.887	
Over 65 years	114	42.5	49.421 ± 7.837	127.030 ± 29.971	73.920 ± 17.004	53.110 ± 13.184	
Test Statistics <sup>†</sup> /p			t = 4.851 / p = 0.001 <sup>*</sup>	t = 7.739 / p = 0.001 <sup>*</sup>	t = 6.745 / p = 0.001 <sup>*</sup>	t = 8.829 / p = 0.001 <sup>*</sup>	
Gender							
Male	178	66.4	45.888 ± 10.360	113.010 ± 20.734	66.850 ± 12.468	46.160 ± 8.696	
Woman	90	33.6	46.956 ± 7.887	119.580 ± 28.418	69.690 ± 16.007	49.890 ± 12.618	
Test Statistics <sup>†</sup> /p			t = 0.860 / p = 0.391	t = 2.153 / p = 0.054	t = 1.594 / p = 0.144	t = 2.835 / p = 0.013*	
Education Level							
Primary school	36	13.4	40.500 ± 2.091	99.310 ± 8.308	57.390 ± 6.258	41.920 ± 2.590	
Secondary school	20	7.5	41.600 ± 4.925	99.100 ± 18.943	58.950 ± 10.415	$40.150 \pm 8.707$	
High School	50	18.7	$40.000 \pm 0.000$	102.740 ± 13.902	60.260 ± 8.715	42.480 ± 5.392	
University	162	60.4	50.025 ± 10.604	124.590 ± 24.356	73.540 ± 13.649	51.050 ± 11.086	
Test Statistics <sup>‡</sup> /p			F = 27.663 / p = 0.001 <sup>*</sup>	F = 27.994 / p = 0.001 <sup>*</sup>	F = 32.349 / p = 0.001 <sup>*</sup>	F = 21.155 / p = 0.001 <sup>*</sup>	
<sup>§</sup> PostHoc			4 > 1, 4 > 2, 4 > 3	4 > 1, 4 > 2, 4 > 3	4 > 1, 4 > 2, 4 > 3	4 > 1, 4 > 2, 4 > 3	
Children							
1	51	19.0	51.765 ± 14.793	$118.140 \pm 5.745$	$72.020 \pm 4.718$	$46.120 \pm 1.807$	
2	166	61.9	$46.277 \pm 7.787$	119.600 ± 27.322	69.770 ± 15.602	49.830 ± 11.913	
3 and more	51	19.0	$40.628 \pm 3.137$	98.040 ± 11.883	$57.200 \pm 6.684$	$40.840 \pm 5.573$	
Test Statistics <sup>‡</sup> /p			F = 19.551 / p = 0.001 <sup>*</sup>	F = 18.755 / p = 0.001 <sup>*</sup>	F = 22.192 / p = 0.001 <sup>*</sup>	F = 17.148 / p = 0.001 <sup>*</sup>	
<sup>II</sup> PostHoc			1 > 2, 1 > 3, 2 > 3	1 > 3, 2 >3	1 > 3, 2 > 3	2 > 1, 1 > 3, 2 > 3	
Work Status							
Working	82	30.6	47.317 ± 12.962	110.180 ± 11.280	66.570 ± 7.983	43.610 ± 3.651	
Not working	186	69.4	$45.774 \pm 7.661$	117.440 ± 27.237	68.350 ± 15.675	49.090 ± 11.764	
Test Statistics <sup>†</sup> /p			t = 1.214 / p = 0.318	t = 2.323 / p = 0.002	t = 0.971 / p = 0.221	t = 4.125 / p = 0.001*	
Other Diseases							
Yes	143	53.4	$47.287 \pm 7.940$	120.050 ± 29.367	69.450 ± 17.106	50.590 ± 12.448	
No	125	46.6	45.056 ± 11.114	109.690 ± 12.990	65.920 ± 8.238	43.770 ± 5.140	
Test Statistics <sup>†</sup> /p			t = 1.907 / p = 0.058	t = 3.645 / p = 0.001 <sup>*</sup>	t = 2.106 / p = 0.029*	t = 5.719 / p = 0.001*	
Time of Diagnosis							
1 Year	22	8.2	$41.455 \pm 4.708$	98.410 ± 18.157	58.500 ± 10.018	39.910 ± 8.320	
3 Years	20	7.5	$70.000 \pm 0.000$	$121.250 \pm 2.023$	74.100 ± 1.447	47.150 ± 1.387	
4 years and up	226	84.3	44.611 ± 7.224	116.320 ± 24.615	68.150 ± 14.287	48.160 ± 10.652	
Test Statistics <sup>‡</sup> /p			F = 134.534 / p = 0.001	F = 6.672 / p = 0.001	F = 7.511 / p = 0.001	F = 6.706 / p = 0.001	
<sup>++</sup> PostHoc			2 > 1, 3 > 1, 2 > 3	2 > 1, 3 > 1	2 > 1, 3 > 1	2 > 1, 3 >1	

Table 1: Differentiation of Patients' Demographic Characteristics and Scale Scores by Demographic Characteristics (n = 268)

n: Number; SD: Standard Deviation; <sup>†</sup>t: Independent t Test; <sup>‡</sup>F: ANOVA Test; <sup>§</sup>Post hoc: p value for triple variables; p value for 45-64 age group and over 65 age group; <sup>II</sup> Post hoc: p -value of the difference between the group with one child and other groups for tripartite variables; <sup>+</sup>PostHoc: For tripartite variables; p -value of the difference between those with a 3-year diagnosis and other groups; \*p < 0.05

Table 2: Hypertension Self-Care Profile Correlation AnalysisBetween Self-Care Management Scores in Behavior andChronic Diseases (n = 268)

		Hypertension Self-Care Profile- Behavior
Total Self-Care Management in	†r	0.702
Chronic Diseases	р	0.001*
Self-Care Management in Chronic	†r	0.713
Diseases Self-Protection	р	0.001*
Self-Care Management in Chronic	†r	0.662
Diseases Social Protection	р	0.001*

†r: Pearson Correlation Analysis; \*p < 0.05

social protection scores of university graduates were higher than the other groups and a statistically significant difference was found between the groups (p < 0.005). A statistically significant difference was found between the groups in terms of total scores for self-care management in chronic diseases, self-protection, and social protection scores (p < 0.005), and it was determined that the reason for the difference was due to the group with one child. The total self-care management in chronic diseases and social protection scores of employed patients were lower than those of unemployed patients and a statistically significant difference was found between the groups (p < 0.005). However, no statistically significant difference was found between the self-protection scores of the patients (p > 0.05). The total self-care management in chronic diseases and self-protection and social protection scores of patients with other diseases were higher than those of patients without other diseases and a statistically significant difference was found between the groups (p < 0.005). The total self-care management in chronic diseases, self-protection and social protection scores of

the patients showed a significant difference according to the time of diagnosis. It was determined that the reason for the difference between the groups was due to the patients with a diagnosis in the previous three years (p < 0.005) (Table 1).

When the correlations between the Hypertension Self-Care Profile Behavior Scale total score, the total score for self-care management in chronic diseases, and the self-protection and social protection scores of the patients participating in the study were examined a positive high (p < 0.05) correlation was found between total selfcare management in chronic diseases and total self-care behavior (r = 0.702); a positive high (p < 0.05) correlation was found between self-protection and total self-care behavior (r = 0.713); a positive very high (p < 0.05) correlation was found (r = 0.989) between self-protection and self-care management in chronic diseases; a positive moderate (p < 0.05) correlation was found between social protection and total self-care behavior (r = 0.662); a positive very high (p < 0.05) correlation was found between social protection and total self-care management in chronic diseases (r = 0.98); and positive very high (p < 0.05) correlation was found between social protection and self-protection (r = 0.94) (Table 2).

The regression analysis performed to determine the causeand-effect relationship between the total score for self-care management in chronic diseases and self-care behavior was found to be significant (F = 258.123; p < 0.05). The total change in self-care behavior level was explained by self-care management in chronic diseases by 49.1% (R<sup>2</sup> = 0.491). Self-care management in chronic diseases increased the total level of self-care behavior ( $\beta$  = 0.702). Regression analysis to determine the cause-and-effect relationship between self-protection, social protection and self-care behavior was significant (F = 137.466; p < 0.05). The total change in the level of self-care behavior was explained by self-protection and social protection by 50.5% (R<sup>2</sup> = 0.505). Self-protection increased the level of self-care behavior ( $\beta$  = 0.778). Social protection did not affect the level of self-care behavior (p > 0.05) (Table 3).

Dependent variable	Argument	†β	<sup>‡</sup> t	* P	۶ <b>F</b>	Model (p <sup>*</sup> )	<sup>∥</sup> R²
Self-Care Behavior	Constant	13.561	6.529	0.001	258.123	0.001	0.491
	Total Self-Care Management in Chronic Diseases	0.702	16.066	0.001			
Self-Care Behavior	Constant	12.579	6.070	0.001	137.466	0.001	0.505
	Self-Protection	0.778	6.186	0.001			
	Social-Protection	-0.069	-0.547	0.585			

+ß: Unstandardized Regression Coefficient; ‡t test in Independent Groups; §F: Simple Linear Regression Measurement Value; ||R2: Linear Regression Analysis; \*p < 0.05

# Discussion

This study sought to understand how self-care behaviors and profiles in people with HT relate to self-care management of chronic conditions. It was discovered that the patients who took part in the study had above-average test results. A very high level of positive correlation was also discovered when the total self-care behavior, total self-care management in chronic diseases, and self-protection and social protection scores of the patients were compared. The Hypertension Self-Care Profile Behavior Scale scores and the total Self-Care Management in Chronic Diseases Scale scores were found to have a strong cause-and-effect relationship according to regression analysis. The results of this study imply that individuals with high scores on the self-care behaviors profile for HTN may exhibit improved self-management behaviors. It was discovered that the age of the study's participants had an impact on their selfcare management and self-care habits. This may be attributed to the fact that as people age, their fear of dying increases and their health is more constantly monitored. There was no significant relationship between age and the amount of self-care practiced (Acharya, Chaudhary, Pandey & Pandey, 2022), while self-care behavior declined with increasing age (AlHadlaq et al., 2019; Świątoniowska-Lonc, Polański, Tański & Jankowska-Polańska, 2020), and control over the disease was more prevalent and self-care was better with rising age (Hu, Li & Arao, 2013; Şengül et al., 2016). It was discovered that while the scores for self-management and self-care for HTN did not differ by gender, the scores for social protection were lower for males than for women. Men may generally be more likely to receive care in Turkish society, where women typically provide these services. In a Saudi Arabian study (AlHadlag et al., 2019), it was found that self-care scores did not differ by gender; however, in other studies (Salim et al., 2019; Świątoniowska-Lonc et al., 2020), it was shown that women exhibited greater self-care behaviors. Patients with higher levels of education scored higher for self-care behaviors related to managing their HTN, overall chronic disease self-care, self-protection, and social protection than patients with lower educational levels. This might be the result of the fact that self-care practices tend to work better when literacy rates are higher. In this regard, our work agrees with the body of the literature (Salim et al., 2019; AlHadlaq et al., 2019; İlhan, Gencer, Özdemir & Maviyildiz, 2020; Świątoniowska-Lonc, 2020).

In terms of self-care behavior scores, it was found that there was no difference between the employment status of the patients taking part in our study. This may be a result of the fact that our study was carried out in a private university hospital, where there are additional costs not met by insurance. Socioeconomic determinants are significant in the management of the disease, and it has been shown in earlier research that patients who were employed exhibited more self-care behaviors than patients who were not (Maginga et al., 2016; Niriayo et al., 2019).

Despite the fact that there was no difference in the self-care behavior scores between patients with and without other chronic diseases,

it is likely that the total self-care management in chronic diseases, self-protection, and social protection scores were affected by how the patient manages their other chronic diseases. Additionally, some studies have demonstrated that concomitant illnesses have no impact on how HTN patients practice self-care (Joseph et al., 2016; Acharya et al., 2022).

There was substantial variation in the patients' self-care behavior, overall self-care management in chronic diseases, self-protection, and social protection scores according to the period of diagnosis. This may be attributed to the fact that when patients manage their care and treatment better, they are the most able to cope with the disease. Again, there was no difference between self-care behaviors and self-care management with regard to the time of diagnosis in another study on the self-care behaviors of HTN patients (Acharya et al., 2022).

### Limitations

This study has several limitations that should be acknowledged. First, since the study was conducted in a single hospital in Turkey, caution should be exercised when generalizing the results to larger populations. Furthermore, the survey-based nature of the data collected imposes limitations regarding accuracy and potential recall bias.

# Conclusion

The results of the study demonstrated that the participants' selfcare management of chronic illnesses and their behavior profile for managing their HTN were both at a moderate level. A close association was also found between the self-care behavior profile of people with HTN and self-care management in chronic diseases, according to the statistical analyses. Having a good self-care profile had a positive impact on the patients' disease management. According to the findings of this study, HTN patients who practice better self-care behaviors are better able to control their condition, which may also help them to avoid developing further difficulties. To maintain better disease management, healthcare providers should encourage HTN patients to practice self-care.

**Ethical Considerations:** Ethical approval was obtained from the Ethics Committee of Lokman Hekim University for this study (Date: 18.10.2022 and No: 2022/172).

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# References

- Acharya, R., Chaudhary, A., Pandey, J., & Pandey, C. (2022). Selfcare management and its associated factors among patient with hypertension in Nepal. *Journal of Chitwan Medical College*, *12*(40), 91-96. doi: 10.54530/jcmc.637
- AlHadlaq, R.K., Swarelzahab, M.M., AlSaad, S.Z., AlHadlaq, A.K., Almasari, S.M., Alsuwayt, S.S., & Alomari, N.A. (2019). Factors affecting self-management of hypertensive patients attending family medicine clinics in Riyadh, Saudi Arabia. *Journal of Family Medicine and Primary Care, 8*(12), 4003-4009. doi: 10.4103/ jfmpc.jfmpc\_752\_19
- Bengtson, A., & Drevenhorn, E. (2003). The nurse's role and skills in hypertension care: a review. *Clinical Nurse Specialist*, 17(5), 260-268. doi: 10.1097/00002800-200309000-00011
- Büyüköztürk, Ş., Çokluk, Ö. ve Köklü, N. (2018). Sosyal bilimler için istatistik. Ankara: Pegem Akademi.
- Dickinson, H.O., Mason, J.M., Nicolson, D.J., Campbell, F., Beyer, F.R., Cook, J.V., ... Ford, G.A. (2006). Lifestyle interventions to reduce raised blood pressure: a systematic review of randomized control trials. *Journal of Hypertension*, 24(2), 215-233. doi: 10.1097/01.hjh.0000199800.72563.26.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.G. (2009). Statistical power analyses using G\*Power 3.1: tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149-1160. doi: 10.3758/BRM.41.4.1149
- George, D., & Mallery, M. (2010). SPSS for windows step by step: a simple guide and reference, 17.0 update (10a ed.). Boston: Pearson.
- Han, H.R., Lee, H., Commodore-Mensah, Y., & Kim, M. (2014). Development and validation of the Hypertension Self-care Profile: a practical tool to measure hypertension self-care. *The Journal of Cardiovascular Nursing*, 29(3), E11–E20. doi: 10.1097/ JCN.0b013e3182a3fd46
- Hançerlioğlu, S., & Şenuzun Aykar, F. (2018). Kronik Hastalıklarda Öz-Bakım Yönetimi Ölçeği'nin Türkçe'ye uyarlanması, geçerlik ve güvenirliği. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, 7(1), 175-183.
- Hartweg, D.L. (1990). Health promotion self-care within Orem's general theory of nursing. *Journal of Advanced Nursing*, *15*(1), 35–41. doi: 10.1111/j.1365-2648.1990.tb01670.x
- Hu, H., Li, G., & Arao, T. (2013). Prevalence rates of selfcare behaviors and related factors in a rural hypertension population: a questionnaire survey. *International Journal of Hypertension*, Epub:526949. doi: 10.1155/2013/526949
- Ilhan, N., Gencer, S., Özdemir, Ö., & Maviyildiz, S. (2020). The relationship between health literacy and illness self-care management in Turkish patients with cancer. *Oncology Nursing Forum*, 47(3), E73-E85. doi: 10.1188/20.0NF.E73-E85
- James, P.A., Oparil, S., Carter, B.L., Cushman, W.C., Dennison-Himmelfarb, C., Handler, J., ... Ortiz, E. (2014). 2014 evidencebased guideline for the management of high blood pressure in adults: report from the panel members appointed to the

Eighth Joint National Committee (JNC 8). Journal of the American Medical Association, 311(5), 507-520. doi: 10.1001/jama.2013.284427

- Joseph, N., Chiranjeevi, M., Sen, S., Singh, P., Saini, M., & Beg, S. (2016). Awareness on hypertension and its self-management practices among hypertensive patients attending outreach clinics of a medical college in South India. *Kathmandu University Medical Journal*, *14*(55), 202-209.
- Kalaycı, Ş. (2006). SPSS uygulamalı çok değişkenli istatistik teknikleri. Ankara: Asil Yayın Dağıtım Ltd. Şti.
- Kaur, P., Rao, S.R., Radhakrishnan, E., Rajasekar, D., & Gupte, M.D. (2012). Prevalence, awareness, treatment, control and risk factors for hypertension in a rural population in South India. *International Journal of Public Health*, 57(1), 87-94. doi: 10.1007/s00038-011-0303-3
- Kes, D., & Gökdoğan, F. (2020). Reliability and validity of a Turkish version of the hypertension self-care profile. *Journal of Vascular Nursing: Official Publication of the Society for Peripheral Vascular Nursing*, 38(3), 149-155. doi: 10.1016/j.jvn.2020.05.001
- Maginga, J., Guerrero, M., Koh, E., Holm Hansen, C., Shedafa, R., Kalokola, F., ... Peck, R.N. (2016). Hypertension control and its correlates among adults attending a hypertension clinic in Tanzania. *Journal of Clinical Hypertension (Greenwich)*, *18*(3), 207-216. doi: 10.1111/jch.12646
- Niriayo, Y.L., Ibrahim, S., Kassa, T.D., Asgedom, S.W., Atey, T.M., Gidey, K., ... Kahsay, D. (2019). Practice and predictors of selfcare behaviors among ambulatory patients with hypertension in Ethiopia. *Plos One*, *14*(6), e0218947. doi: 10.1371/journal. pone.0218947
- Roth, G.A., Mensah, G.A., Johnson, C.O., Addolorato, G., Ammirati, E., Baddour, L.M., ... Fuster, V. Global Burden of Cardiovascular Diseases Writing Group (2020). Global burden of cardiovascular diseases and risk factors, 1990-2019: update from the GBD 2019 study. *Journal of the American College of Cardiology*, 76(25), 2982-3021. doi: 10.1016/j.jacc.2020.11.010
- Salim, H., Lee, P.Y., Sazlina, S.G., Ching, S.M., Mawardi, M., Shamsuddin, N.H., ...Tan, N.C. (2019). The self-care profiles and its determinants among adults with hypertension in primary health care clinics in Selangor, Malaysia. *Plos One*, *14*(11), e0224649. doi: 10.1371/journal.pone.0224649
- Świątoniowska-Lonc, N., Polański, J., Tański, W., & Jankowska-Polańska, B. (2020). Impact of satisfaction with physicianpatient communication on self-care and adherence in patients with hypertension: cross-sectional study. *BMC Health Services Research*, 20(1), 1046. doi:10.1186/s12913-020-05912-0
- Şengül, S., Akpolat, T., Erdem, Y., Derici, U., Arici, M., Sindel, S., ... Erturk, S. (2016). Changes in hypertension prevalence, awareness, treatment, and control rates in Turkey from 2003 to 2012. *Journal of Hypertension*, *34*(6), 1208-1217. doi: 10.1097/ HJH.00000000000000001
- Tabachnick, B.G., Fidell, L.S., & Ullman, J.B. (2013). Using multivariate statistics (Vol. 6, pp. 497-516). Boston, MA: pearson.

- Williams, B., Mancia, G., Spiering, W., Agabiti Rosei, E., Azizi, M., Burnier, M., ... Desormais, I. (2018). 2018 ESC/ESH Guidelines for the management of arterial hypertension. *European Heart Journal*, 39(33), 3021–3104. doi:10.1093/eurheartj/ehy339
- World Health Organization. (2022). Guideline for the pharmacological treatment of hypertension in adults: summary. https://www.who.int/publications/i/item/9789240050969.