

## Investigation of Care Burden and Burnout Levels of Elderly Care Providers Receiving Home Health Services

*Evde Sağlık Hizmeti Alan Yaşlılara Bakım Verenlerin Bakım Yükü ve Tükenmişlik Düzeylerinin İncelenmesi*

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### Abstract

**Background:** It was aimed to determine the care burden and burnout status of individuals caring for the elderly receiving home health care services and to reveal the needs of the caregiver for the determined situation.

**Materials and Methods:** This descriptive study was conducted between January 1 and April 1, 2022, with individuals who had been providing care to patients registered in the Home Health Services unit of Recep Tayyip Erdogan University Training and Research Hospital for at least 1 month, who were not paid for their caregiving work, and who agreed to participate in the study.

**Results:** The burnout scale short form score of caregivers was  $2.8 \pm 1.3$  in women and  $2.0 \pm 1.1$  in men ( $p=0.047$ ). As the dependency level of the care recipients increased, the time-dependency burden subscale scores of the caregivers increased and this result was statistically significant ( $p<0.001$ ). In this study, a significant negative correlation was found between the caregivers burden inventory time-dependency burden subscale score of caregivers and the Katz Activities of Daily Living (ADL) scale of care recipients ( $p<0.001$ ). A statistically significant strong positive correlation was found between the total Caregivers Burden Inventory (CBI) score of caregivers and the burnout scale short form score ( $p<0.001$ ).

**Conclusions:** A statistically significant positive correlation was found between the total CBI score and the Burnout Scale-Short Form score of caregivers. Burnout may lead to negative outcomes such as low self-esteem, low motivation and low performance in caregivers.

**Keywords:** Caregivers, burnout, caregiver burden

### ÖZ

**Amaç:** Evde sağlık hizmeti alan yaşlılara bakım veren bireylerin bakım yükü ve tükenmişlik durumunu belirlemek ve belirlenen durum için bakım verenin ihtiyaçlarını ortaya koymak amaçlanmıştır.

**Gereç ve Yöntem:** Gereç Yöntem: Tanımlayıcı tipteki bu çalışma, Recep Tayyip Erdoğan Üniversitesi Eğitim ve Araştırma Hastanesi Evde Sağlık Hizmetleri birimine kayıtlı hastalara en az 1 aydır bakım veren, bakım verme işi karşılığında ücret almayan ve çalışmaya katılmayı kabul eden kişilerle 1 Ocak-1 Nisan 2022 tarihleri arasında yapılmıştır.

**Bulgular:** Bakım verenlerin tükenmişlik ölçeği kısa form puanı kadınlarda  $2,8 \pm 1,3$  iken erkeklerde  $2,0 \pm 1,1$  idi ( $p=0,047$ ). Bakım alanların bağımlılık düzeyi arttıkça bakım verenlerin Bakım Verenlerin Yükü Envanteri (BVYE) zaman-bağımlılık yükü alt ölçek puanları artmaktaydı ve bu sonuç istatistiksel olarak anlamlıydı ( $p<0,001$ ). Bu çalışmada, bakım verenlerin BVYE zaman-bağımlılık yükü alt ölçeği puanı ile bakım alanların Katz günlük yaşam aktivitesi ölçeği arasında anlamlı olarak negatif korelasyon saptandı ( $p<0,001$ ). Bakım verenlerin toplam BVYE puanı ile tükenmişlik ölçeği kısa formu puanı arasında istatistiksel olarak anlamlı güçlü bir pozitif korelasyon saptandı ( $p<0,001$ ).

**Sonuç:** Bakım verenlerin toplam BVYE puanı ve Tükenmişlik Ölçeği-Kısa Form puanı arasında istatistiksel olarak anlamlı pozitif korelasyon saptanmıştır. Tükenmişlik durumu bakım verenlerde, düşük öz saygı, düşük motivasyon ve düşük performans gibi negatif sonuçlara neden olabilir.

**Anahtar kelimeler:** Bakıcılar, tükenmişlik, bakıcı yük

### Highlights

- With the holistic approach of family medicine, patients and caregivers were addressed on a common ground.
- Personal characteristics and needs of caregivers were analyzed.
- Caregiver burden and burnout were analyzed.

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## Introduction

The incidence of chronic diseases is rising with increasing life expectancy. Therefore, the increase in the number of individuals with chronic diseases needing lifelong treatment and care has become an important health issue in the developed and developing countries (1). Family medicine specialists, who treat patients with a holistic and biopsychosocial approach, take an active role in both palliative care in inpatient services and home health services (2). Because of the increasing cost of caring for patients with chronic diseases combined with the limitation of bed capacities in hospitals, home-based care has become more preferable.

Home Health Care Services (HHC) is defined as the provision of examination, examination and treatment in the home environment by a professional healthcare team to patients who are semi dependent/dependent in daily living activities and those who have difficulty in accessing health institutions due to various chronic or malignant diseases (3).

With the increasing number of chronically ill patients requiring home care services, caregivers are now required to provide long-term commitment. Family members or relatives are often the ones who are assigned to care for patients receiving HHC services in their homes. Evaluating and supporting people involved in long-term care in terms of biopsychosocial aspects in the process is one of the important tasks of HHC providers in the background. In Turkey, the care of sick and vulnerable people is usually provided by their families and is perceived as a family responsibility. Becoming a caregiver cannot be chosen or planned. Therefore, adaptation to this situation takes place after the need arises (4). Reducing the care burden and problems of the caregiver affects the quality of care they provide to the patient. Caregivers need help and support to meet their own physical and mental health needs in order to continue caregiving. Most caregivers do not have sufficient knowledge and skills to provide long-term care. Therefore, they may feel insecure and unprepared (5). A caregiver is a person who undertakes care work and provides physical, social, emotional and economic support to the patient. Caregiving is a difficult process for both the bedridden patient receiving care and the caregivers (6-7).

Patients who benefit from HHC services are typically those with advanced complicated diseases or highly life-limiting diagnoses and are at high risk of morbidity and mortality. These patients are among the growing number of older adults and frail persons who are often homebound due to multiple chronic diseases, including cognitive impairment, and, as a result, functional limitations and falls occur. Home caregivers may have to work very hard due to the many responsibilities they are burdened with, such as monitoring patients' health conditions, meeting their basic and personal needs, budget management, shopping, sharing the same home and improving the quality of life of the patients. Therefore, the care givers often get tired, stressed and even become exhausted.

The process of caregiving is very demanding for both the recipient and the provider. Therefore, determining the situation of the caregivers should be the first step of the process. At this point, this study aimed to determine the care burden and burnout status of individuals caring for the elderly receiving HHC services and to reveal the needs at the point of intervention to the caregiver.

## Material and Methods

### Study design

This descriptive study was conducted with patients and their relatives registered to Recep Tayyip Erdogan University University Training and Research Hospital Home Health Services unit between 1 January and 1 April 2022. Ethical approval (protocol number: 2022/17) was obtained from Recep Tayyip Erdogan University Faculty of Medicine Ethics Committee on 20.01.2022. In addition, informed consent forms were given by the caregivers. The patient's relatives are 75 people who have been providing care for at least 1 month, who do not receive remuneration for caregiving, and who agree to participate in the study. The research sample was calculated as at least 71 people with 95% power, 95% confidence interval and 0.40 effect size with G Power 3.1.9 program. The study was completed with 75 participants. (8) The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

Sociodemographic and personal characteristics of the caregivers, Caregivers Burden Inventory (CBI) and Maslach Burnout Scale-Short Form were administered to the caregivers. The Katz Activities of Daily Living (ADL) Scale, age, presence of active pressure sores and diaper use status etc. of the patients were recorded.

CBI is for measuring the effect of caregiving on caregivers. It is a 5-point Likert-type scale consisting of 24 items developed by Novak and Guest (1989) (9). The burden of caregivers is analyzed in five sub-dimensions: time dependency burden (items 1-5), developmental burden (items 6-10), physical burden (items 11-14), social burden (items 15-19) and emotional burden (items 20-24). The total score of each individual varies between 0-100. A high

score indicates a high degree of burden and a low score indicates a low degree of burden. In the adaptation study (Kucukguclu, Esen and Yener, 2009), the Cronbach alpha value obtained for the entire inventory was 0.94; 0.93 for "time-dependent load", 0.94 for "developmental load", 0.94 for "physical load", 0.82 for "social load", 0.94 for "emotional load" (10). Time-dependency burden assesses how much time the caregiving task takes for the provider and the temporal dependency of the recipient on the caregiver. Developmental burden assesses the caregiver's own personal development and its relationship with caregiving. Physical burden assesses the sleep deprivation, physical problems and illnesses caused by caregiving. Social burden assesses the impact of caregiving on the caregiver's family and social relationships and occupational status. Emotional burden assesses the emotional reflection of the care receiver's behaviour and actions on the caregiver.

The Burnout Scale Short Form (Pines, 2005) expressed the need to create a 10-item short form of the tool for easier use of the 21-item Burnout Scale and the expansion of its application area (11). The 10 items of the short version were selected by applying theoretical analysis (and not by applying statistical analysis) of the 21-item version. The average burnout score obtained by applying both the long and short forms of the Burnout Scale was found to be the same. The Burnout Scale Short Form consists of 10 items with response options from 1 (Never) to 7 (Always). Those who scored higher on the scale reported more burnout and fatigue than those who scored lower. The internal consistency coefficients of the scale calculated with data obtained from different ethnicity, occupation and student groups vary between 0.85 and 0.92. The reliability of the Turkish version of the scale was analysed using Cronbach's alpha and test-retest techniques. Cronbach Alpha value was found to be 0.91 (12). One of the easiest ways to assess the health status of the elderly is to perform a functional assessment, which provides objective data indicating the state of decline.

The ADL Index was developed by Katz et al. in 1963 for use in the evaluation of treatment and prognosis in chronic diseases and the elderly (13). In six sub-sections, the patient is assessed in terms of the ability to control the functions related to bathing, dressing, toileting, transport, bowel and bladder, and the ability to perform the function of eating independently. Functions performed with assistance score 0 points, while functions performed independently score 1 full point. 6 points indicate independence, 4 points indicate semi-dependence, 2 points and below indicate full dependence.

### Statistical Analysis

SPSS Statistics 24.0 (IBM Corp. Released 2016. IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp.) statistical package program was used for data analysis. Descriptive statistics of the evaluation results were given as number and percentage for categorical variables and mean and standard deviation for numerical variables. The conformity of the groups to normal distribution was determined by Kolmogorov-Smirnov test. The comparisons of numerical variables between two independent groups were evaluated by independent groups T test and Mann Whitney U test according to the conformity to normal distribution. Comparisons of numerical variables between three or more independent groups were evaluated by one-way ANOVA test and Kruskal-Wallis test according to the conformity to normal distribution. In case of significant differences in the Kruskal-Wallis test, post hoc comparisons were tested with Bonferroni. In the correlation analysis, Spearman correlation test was used. Statistical alpha significance level was accepted as  $p < 0.05$ .

Linear Regression Analysis was applied to determine the independent predictors of Burnout Scale. While creating the model,  $p < 0.25$  value was accepted in univariate analyses and the variables to be included in the model were determined.

### Results

The study included 75 caregivers; 81.3% (n:61) were female and 18.7% (n:14) were male. The mean age of the participants was  $50.85 \pm 10.08$  years. 56% of the caregivers were giving care to their first degree relatives. The rate of those receiving continuous care was 73%. The mean age of the care recipients was  $79.19 \pm 13.91$  years. In addition, 77.3% of the care recipients were fully dependent, 14.7% were semi-dependent and 8% were independent (Table 1).

**Table 1. Sociodemographic Parameters**

Parameters		n (%)
Gender	Female	61(81.3)
	Male	14(18.7)
Age (mean±SD)		50.85±10.08
	illiterate	4(5.3)

<b>Education Status</b>	Literate	2(2.7)
	Primary & secondary school	38(50.7)
	High school	24(32)
	Graduate	7(9.3)
<b>Marital status</b>	Single	6(8)
	Married	67(89.3)
	Divorcee	2(2.7)
<b>Employment status</b>	Unemployed	67(89.3)
	Employed	8(10.7)
<b>Income status</b>	Income less than expenditure	40(53.3)
	Income equals expenditure	31(41.3)
	Income more than expenditure	4(5.3)
<b>Number of people living at home (mean±ss)</b>		4.16±1.38
<b>Having children</b>	No	7(9.3)
	Yes	68(90.7)
<b>Number of children (mean±SD)</b>		2.20±1.17
<b>Child age</b>	0-6 years	7(9.3)
	7-17 years	25(33.3)
	18 years and over	55(73.3)
<b>Chronic disease</b>	Yes	35(46.7)
	No	40(53.3)
<b>Relation to the care recipient</b>	1 <sup>st</sup> degree relative/spouse	42(56)
	2 <sup>nd</sup> degree	6(8)
	3 <sup>rd</sup> degree relative /neighbour/acquaintance	27(36)
<b>Duration of maintenance (years, mean±ss)</b>		5.28±5.73
<b>Caregiving status</b>	Continuous care	55(73.3)
	Intermittent maintenance	20(26.7)
<b>Nutritional status of the care recipient</b>	Self-feeding	40(53.3)
	Being fed	35(46.7)
<b>Nutrient intake of the care recipient</b>	Oral	67(89.3)
	Tube	8(10.7)
<b>Age of care recipient (mean±SD)</b>		79.19±13.91
<b>Active decubit ulcer</b>	Yes	21(28)
	No	54(72)
<b>Use of nappies</b>	Yes	56(74.7)
	No	19(25.3)
<b>Psychological support received by the caregiver (n=64)</b>	Yes	10(15.6)
	No	54 (84.4)
<b>Dependency of the care recipient</b>	Fully depend	58 (77.3)
	Semi-dependent	11(14.7)
	Independent	6(8)

Abbreviations: SD: Standard Deviation

The burnout scale short form score of caregivers was 2.8±1.3 for females and 2.0±1.1 for males. This difference between both genders was statistically significant ( $p=0.047$ ). Female caregivers had higher burnout levels than men. The CBI developmental and emotional burden subscale scores of caregivers of 2nd and 3rd-degree relatives or neighbours were higher than the scores of caregivers of 1st-degree relatives, and this was statistically significant ( $p=0.018$ ,  $p=0.009$ ) (Table 2).

Table 2. Sociodemographic Data of Caregivers and Burnout Scale-Short Form and Caregiver Burden Inventory Scores

	Burnout Scale Short Form Score	Caregiver Burden Inventory Subscale and Total Scores						
		Time-dependency burden	Developmental burden	Physical load	Social burden	Emotional burden	Total CBI Score	
Gender	Female	2.8±1.3	16.6±4.3	10.7±5.6	9.0±5.9	3.9±4.7	2.1±2.7	42.4±15.8
	Male	2.0±1.1	13.5±6.2	6.5±5.6	5.8±5.8	3.4±4.3	0.7±1.4	31.1±15.7
	<i>p</i>	0.047**	0.321**	0.115**	0.304**	0.561**	0.372**	0.256**
Age	≤50 years	2.9±1.3	16.5±4.3	10.9±6.2	9.1±5.8	4.1±4.4	2.0±2.5	42.6±16.2
	>50 years	2.4±1.3	15.6±5.2	9.0±5.4	7.8±6.1	3.6±4.2	1.7±2.6	38.1±16.4
	<i>p</i>	0.084*	0.321**	0.115**	0.304**	0.561**	0.372**	0.237*
Marital status	Single-Divorced	2.7±1.3	17.1±3.5	8.1±5.4	7.3±6.4	2.3±3.4	0.5±1.1	35.3±15.5
	Married	2.6±1.3	15.9±4.9	10.1±5.9	8.5±6.0	4.0±4.3	2.0±2.6	40.9±16.4
	<i>p</i>	0.770**	0.526**	0.541**	0.558**	0.419**	0.107**	0.368*
Chronic disease	Yes	2.7±1.3	15.3±5.5	10.5±5.4	8.9±5.9	3.3±3.5	2.4±2.8	40.9±15.4
	No	2.6±1.4	16.7±4.1	9.4±6.2	8.0±6.1	4.3±4.8	1.4±2.2	39.9±17.3
	<i>p</i>	0.902*	0.156**	0.466**	0.526**	0.553**	0.093**	0.795**
Proximity to the care recipient	1st degree relative/spouse	2.6±1.4	16.6±4.6	8.5±5.6	7.8±6.1	3.3±4.0	1.3±2.2	37.6±16.3
	2nd degree close-3rd degree close/neighbor/relative	2.7±1.3	15.3±5.0	11.7±5.7	9.2±5.7	4.5±4.5	2.7±2.7	43.8±15.9
	<i>p</i>	0.582**	0.109**	0.018**	0.259**	0.237**	0.009**	0.102*
Duration of maintenance (years. mean±ss)	≤3 years	2.6±1.3	15.4±5.0	9.2±5.8	7.5±5.2	3.9±4.5	1.6±2.6	37.6±15.7
	>3 years	2.7±1.4	16.8±4.6	10.7±5.9	9.5±6.6	3.7±4.0	2.2±2.5	43.3±16.7
	<i>p</i>	0.929*	0.176**	0.282**	0.224**	0.965**	0.247**	0.134*
Status of receiving psychological support	Receiving	3.3±1.7	16.5±5.2	13.5±5.7	10.6±6.4	3.8±4.3	2.0±1.5	46.4±16.6
	Does not take	2.6±1.2	15.9±4.6	9.6±5.9	8.1±5.8	3.6±4.3	1.9±2.8	39.5±16.0
	<i>p</i>	0.240**	0.459**	0.068**	0.221**	0.839**	0.386**	0.213*

Abbreviations: CBI : Caregiver Burden Inventory \*Independent Groups T test. \*\*Mann-Whitney U test

As the level of dependency of the care recipients increased, the CBI time-dependency burden subscale scores of the caregivers increased and this was statistically significant ( $p<0.001$ ). If the care recipient was being fed by the caregiver, the caregiver's CBI time-dependency subscale score was higher than that of caregivers of self-fed patients, while the CBI emotional subscale score was lower ( $p<0.001$ ,  $p=0.045$ ). In addition, the CBI time-dependency burden subscale score of the caregivers of tube-fed patients was higher than that of the caregivers of orally fed patients ( $p=0.04$ ) (Table 3).

Table 3. Sociodemographic Data of Care Receivers and Levels of Caregiver Burnout Scale Short Form Scores and Caregiver Burden Inventory Scores

Burnout Scale-Short Form Score	Caregiver Burden Inventory Subscale and Total Scores					
	Time-dependency burden	Developmental burden	Physical load	Social burden	Emotional burden	Total CBI Score

Dependenc y of the carer	Fully dependent	2.7±1.4	17.4±3.9	9.7±5.9	8.6±6.3	4.1±4.5	1.7±2.5	41.7±16.5
	Semi- dependent	2.6±1.1	13.5±4.5	10.7±5.9	8.4±5.6	3.0±3.3	2.3±3.1	38.0±16.8
	Independent	2.7±0.8	7.5±2.3	10.0±5.9	7.1±3.0	3.2±3.4	2.8±2.2	30.6±11.3
	<i>p</i>	0.797 <sup>v</sup>	<0.001 <sup>v</sup>	0.902 <sup>v</sup>	0.919 <sup>v</sup>	0.825 <sup>v</sup>	0.294 <sup>v</sup>	0.249 <sup>†</sup>
	<i>Post Hoc</i>		P <sup>1-2</sup> :0.017 P <sup>1-3</sup> :<0.001 P <sup>2-3</sup> :0.335					
Nappy status of the care recipient	Diapering	2.6±1.3	17.4±3.4	10.0±5.7	8.7±6.4	3.7±4.2	1.5±2.3	41.6±15.5
	No nappies	2.9±1.4	11.9±6.0	9.7±6.3	7.6±4.5	4.4±4.4	2.9±2.9	36.6±18.6
	<i>p</i>	0.420*	<0.001**	0.888*	0.570*	0.601*	0.043*	0.252*
Nutritional status of the care recipient	Self-feeding	2.6±1.3	14.4±5.1	9.9±5.7	8.3±5.7	3.9±4.0	2.4±2.8	38.8±17.5
	Caregiver feeds	2.7±1.4	18.0±3.6	9.9±6.0	8.6±6.3	3.8±4.6	1.3±2.1	42.0±14.9
	<i>p</i>	0.861*	<0.001**	0.960*	0.928**	0.856**	0.045**	0.396*
Diet of the care recipient	Oral	2.6±1.3	15.7±5.0	9.9±5.7	8.2±5.9	3.7±4.3	2.0±2.6	39.7±16.4
	Tube	2.9±1.7	18.9±1.7	10.1±6.9	10.3±6.9	4.9±3.7	0.8±1.4	44.9±15.9
	<i>p</i>	0.634*	0.040**	0.830**	0.361**	0.198**	0.164**	0.399*

Table 4. The Relationship Between Caregiver Burden Inventory Subscales and Burnout Scale-Short Form Scores of Caregivers of Home Health Patients and Katz Activities of Daily Living Scale Score of Care Receivers\*

		Katz Activity of Daily Living Scale	Caregiver Burden Inventory					
			Time dependency load	Developme ntal burden	Physical load	Social burden	Emotional burden	Total CBI Score
Caregiver Burden Inventory	Time dependency load	r= -0.523 p<0.001	-	-	-	-	-	-
	Developmental burden	r= 0.047 p= 0.690	r= 0.172 p= 0.141	-	-	-	-	-
	Physical load	r= -0.029 p= 0.804	r= 0.299 p= 0.009	r=0.801 p<0.001	-	-	-	-
	Social burden	r= -0.064 p= 0.584	r= 0.116 p= 0.320	r=0.340 p=0.003	r=0.473 p<0.001	-	-	-
	Emotional burden	r= 0.150 p= 0.200	r= -0.032 p= 0.783	r=0.458 p<0.001	r=0.466 p<0.001	r=0.242 p=0.036	-	-
	Total CBI Score	r= -0.166 p= 0.154	r= 0.428 p<0.001	r=0.846 p<0.001	r=0.908 p<0.001	r=0.620 p<0.001	r=0.514 p<0.001	-
Burnout Scale- Short Form		r= 0.050 p= 0.668	r= 0.114 p= 0.329	r=0.652 p<0.001	r=0.638 p<0.001	r=0.474 p<0.001	r=0.336 p=0.003	r=0.661 p<0.001

In this study, a significant negative correlation was found between the CBI time-dependency burden subscale score of the caregivers and the Katz ADL scale of the care recipients ( $p<0.001$ ). In the Katz ADL scale, the dependency level decreases as the score of the care recipient increases. Therefore, as the dependency level of the care recipients increased, the time-dependency burden of the caregivers also increased.

A statistically significant strong positive correlation was found between the total CBI score of the caregivers and the burnout scale short form score ( $p<0.001$ ). In addition, significant positive correlations were found between each of the CBI subscales and other CBI subscales and the total CBI score. However, no significant positive correlation was found between the developmental, social and emotional burden subscales of the CBI and the time-dependency burden subscale of the CBI ( $p=0.141$ ,  $p=0.32$ ,  $p=0.783$ , respectively) (Table 4).

The results of linear regression analysis in predicting the Burnout Scale Score are shown in Table 5. CBI Score ( $\beta=0.620$ ;  $t=5.969$ ;  $p<0.001$ ) was found to be a predictor of the Burnout Scale score, while no statistically significant relationship was found for age, gender and receiving psychological support (Table 5).

Table 5. Linear Regression Analysis Results in Predicting Burnout Scale Score

Burnout Scale	B	SE	$\beta$	t	p
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Age	0.003	0.014	0.018	0.182	0.857
Gender	-0.279	0.358	-0.081	-0.779	0.439
Psychological Support	0.337	0.352	0.094	0.955	0.343
CBI Score	0.050	0.008	0.620	5.969	<0,001

Abbreviations: CBI: Caregiver Burden Inventory

## Discussion

In this study, the caregiving burden and burnout status of caregivers of the elderly receiving home health care services were examined and the relationship with demographic variables was investigated. There was a statistically significant positive correlation between the total CBI score and the Burnout Scale-Short Form score. Burnout is a condition that occurs when physical, emotional and mental fatigue levels are high. It should be noted that to date, no clear solution has been found to cope with burnout and caregiver stress caused by caregiving (14).

In societies, caregiving is mostly regarded as the role of women, and in this study, the majority of caregivers were women (7-15-16-17). Since it is mostly men who provide the household income by working in Turkish society, it may be mostly women who undertake the task of caring for the patient at home. In Turkey, women generally live longer than men and the difference in life expectancy at birth between men and women is 5.4 years (18). The fact that life expectancy is longer in women than in men may have caused them to undertake caregiving more than men.

In the study, no significant relationship was found between age, gender, marital status, income level, chronic disease and duration of caregiving, and care burden. In similar studies in the literature, different results were found regarding the effect of sociodemographic characteristics of caregivers on care burden. In the study of Dagdeviren et al. no significant relationship was found between age, gender, marital status, occupation, income level, number of children, duration of caregiving and closeness to the patient and care burden (18). Kahrman's study revealed that age had an effect on care burden but gender, employment status and income level had no effect (20).

As a striking result in our study, it was found that caregiving did not create a social burden on the caregiver. Since Turkish society has a traditional structure that values intra-family relationships, patient care is seen as a responsibility that is appreciated and must be fulfilled by caregivers. Therefore, it can be concluded that caregiving does not impose a burden on the person in Turkish society, but rather brings tolerance and appreciation to the caregiver.

Many studies have revealed that patient care creates an intense physical and emotional burden on caregivers. A multidisciplinary approach is required in its management from primary health care to occupational health care (21). In our study, it was found that caregiving to second and third degree relatives/neighbors/relatives increased the developmental and emotional burden of CBI. This shows that the emotional burden of caregiving increases as the closeness of the individual with the caregiver decreases. It is known that close relative care brings an emotional burden. In this study, it was found that less emotional burden occurred in those who care for their closest relatives.

There are numerous studies conducted with CBI in the literature. However, there are a limited number of studies evaluating CBI subscales. One of the strengths of this study is that the CBI subscales were evaluated individually, and these subscales were also evaluated together with the Burnout Scale Short Form. In addition, this study was conducted face-to-face, on a one-to-one basis with patients and their caregivers, which is a more comprehensive approach that further strengthen this study.

In this study, 77.3% of home care recipients were fully dependent. There was a significant negative correlation between the CBI time-dependency burden subscale score of caregivers and the Katz ADL scale of care recipients. As the care recipient's score on the Katz ADL scale increases, so does the level of dependency. Therefore, as the Katz ADL scale scores of the care recipients decrease, their dependency level increase and this enhances the CBI time-dependency sub burden. This result was expected in this study. Yuksel et al. and Gayomali et al. found that the burden of caregiving increased as the dependency status of elderly patients in activities of daily life increased (22-23). In the study conducted by Isik, it was found that the burden of caregiving increased as the dependency status of elderly patients in activities of daily living increased (24).

In addition, in this study, it was found that the increase in the dependency level of the care recipient (being in diapers, fed by the caregiver and tube feeding) increased the CBI time-dependency sub burden. When other studies are examined, it is seen that the increase in the dependency level of the care recipient causes a significant increase in the burden of the caregiver (21-22).

While determining the determinants of the Burnout Scale score, a statistical relationship was found with the CBI

Score ( $\beta=0.620$ ;  $t=5.969$ ;  $p<0.001$ ). In the Turkish adaptation, validity and reliability study of the Burnout Scale Short Version, the analysis showed that the Burnout Scale Short Version scores correlated 0.48 with the Satisfaction with Life Scale scores, 0.73 with Depression scores, 0.70 with Anxiety scores and 0.70 with Stress scores ( $p<0.01$ ) (12).

### Study limitations

Some of the limitations of this study were that it was a single-center and cross-sectional study conducted in a certain time interval. Caregivers may not have responded to the questionnaire accurately enough because of apparent insufficiencies in their care of the patients, unwillingness to share their caregiving situation and show burnout symptoms that might be perceived as weakness. The study should be conducted with larger samples.

### Conclusion

Burnout may lead to negative outcomes such as low self-esteem, low motivation and low performance in caregivers. On the other hand, increased dependency level of the care recipient (being in diapers, fed by the caregiver and tube feeding) were found to increase the time-dependency sub burden of the CBI score. Therefore, appropriate measures should be taken to reduce burnout levels and caregiving burden of caregivers of home care patients. For example, caregivers may seek help from family and friends or get support from professional people. These professionals include HHC team members, primary care physicians, psychiatry specialists, nurses, psychologists, etc. They can reduce the stress of caregiving by taking time for themselves more frequently. The importance of medical support and multidisciplinary approach was once again emphasized in this study.

This study also shows that more detailed information about caregiving can be obtained by focusing on the subscales of the inventories and the necessary interventions can be determined.

Family medicine specialists should assess the physical and mental well-being of the caregivers. They should pioneer early diagnosis and effective measures before most conditions reach disease state. They should assume the responsibility of the patient and their relatives with a holistic approach.

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### References

1. Utku U. Stroke definition, etiology, classification and risk factors. Turkish Journal of Physical Medicine and Rehabilitation. 2007; 53:1-3.
2. Ozturk O, Oruc MA, Goktepe ME. Evaluation of the Patient Consultations for Admission to Palliative Care: A Descriptive Study. The Turkish Journal of Geriatrics. 2022; 25(1): 42-8
3. Havens B, World Health Organization H-B, Long-Term Care U. Home care issues at the approach of the 21st century from a World Health Organization perspective: a literature review. Geneva: World Health Organization. 1999; p.13.
4. Eicher PS, Batshaw ML. Cerebral palsy. Pediatric Clinics of North America. 1993; 40(3): 537-51.
5. Kekec M. Determination of care burden and factors affecting caregivers of hemodialysis treatment recipients (dissertation). Erciyes University. 2011; p.1-30.
6. Bekdemir A. Determination of the problems and care burden experienced by individuals caring for bedridden patients (dissertation). Istanbul Halic University. 2014; p.20-31.
7. Zaybak A, Gunes U, Ismailoglu GE, et al. Determination of the care burden of individuals caring for bedridden patients. Journal of Anatolia Nursing and Health Sciences. 2012; 15:1.
8. Faul F, Erdfelder E, Buchner A, et al. Statistical power analyses using G\*Power 3.1: tests for correlation and regression analyses. Behav Res Methods. 2009; 41(4):1149–60.
9. Novak M, Guest C. Application of a multidimensional caregiver burden inventory. Gerontologist. 1989; 29:798-803.
10. Kucukguclu O, Esen A, Yener G. Investigation of the validity and reliability of the Caregivers Burden Inventory for Turkish society. Journal of Neurological Sciences. 2009; 26: 60-73.
11. Malach-Pines A. The Burnout Measure, Short Version. International Journal of Stress Management. 2005; 12:78-88.

12. Tunkaya S, Cam S, Cavusoglu I. Validity And Reliability Study Of The Burnout Scale Short Version Adaptation Into Turkish. *Cukurova University Journal of Institute of Social Sciences*. 2009; 18(1): 387-98.
13. Katz S, Ford A.B, Moskowitz R.W, et al. The index of ADL: a standardized measure of biological and psychosocial function. *JAMA*. 1963; 185: 914-9.
14. Kalinkara V, Kalayci I. Life satisfaction, care burden and burnout of the individuals who have a caregiver service to the elderly at home. *Elderly Issues Research Journal*. 2017; 10:19-39.
15. Tari Selcuk K, Avci D. The Care Burden of Caregivers Caring for Elderly with Chronic Diseases and Affecting Factors. *Suleyman Demirel University Journal of Health Sciences*. 2016; 7(1): 1-9.
16. Altay B, Erkurun H, Aydin A.I. The Burden Of Caregivers Of Alzheimer Patients And The Factors Affecting The Burden. *Journal of Samsun Health Sciences*. 2018; 3(2): 1-8.
17. Xie H, Cheng C, Tao Y, et al. Quality of life in Chinese family caregivers for elderly people with chronic diseases. *Health and Quality of Life Outcomes*. 2016; 14(1): 99.
18. Turkish Statistical Institute life expectancy data tables. 2017-2019. (2020 September 17). Turkish statistical institute. (cited 2023 May 10). Available from: <https://data.tuik.gov.tr/Bulten/Index?p=Hayat-Tablolari-2017-2019-33711>
19. Dagdeviren T, Demir N, Adahan D, et al. Assessment of Maintenance Burden in The Caregivers of The Patients Receiving Home Health Care Services. *Turkish Journal of Family Medicine and Primary Care*. 2020; 186-95.
20. Kahrman F, The relationship between care burden and perceived social support in caregivers of patients with cancer (dissertation). Izmir Ege University. 2014; p.42- 50.
21. Evren I, Sungur U, Eksi M, et al. Burnout Syndrome in Urology Residents: A Multicenter Survey Study. *The International Journal of Current Medical and Biological Sciences*. 2022; 2(3):199-206
22. Yuksel G, Varlibas F, Karlikaya G, et al. Caregiver burden in Parkinson's disease. *Journal of Parkinson's Disease and Movement Disorders*. 2007; 10(1-2): 26-34.
23. Gayomali C, Sutherland S, Finkelstein FO. The challenge for the caregiver of the patient with chronic kidney disease. *Nephrology Dialysis Transplantation*. 2008; 23(12): 3749-51.
24. Isik K, The relationship between life satisfaction and care burden of home caregivers of elderly patients and factors affecting them (dissertation). Malatya Inonu University. 2013; p.16-31.