

Care Burden and Compassion in Caregivers of Stroke Survivors

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ABSTRACT

Objective: This study was conducted to evaluate the factors related to care burden and compassion levels of caregivers of family members who had a stroke and the relationship between the two variables.

Method: The study was designed as a descriptive, cross-sectional, and correlational one. The sample included 280 stroke survivors and family caregivers. The data were collected using a Family Caregiver Information Form, the Stroke Survivors Information Form, the Zarit Burden Interview (ZBI), the Compassion Scale (CS), and the Modified Barthel Index (MBI).

Results: In the study, it was determined that the compassion scores (3.71 ± 0.85), and caregiving burden scores (34.30 ± 17.42) of the family caregivers of stroke survivors were moderate. There was a negative, strong and significant relationship between caregiving burden and compassion ($p < .001$). It was determined that as the caregiving burden of the family caregiver's increased, their levels of compassion decreased.

Conclusion: Determining the care burden and compassion levels of family caregivers of stroke survivors might contribute to improvement of the health of both family caregivers and stroke survivors.

Keywords: Family caregivers, care burden, compassion, stroke survivors.

1. INTRODUCTION

Stroke survivors may experience many problems in bodily functions such as muscle strength, movement, energy, sleep and memory and in activities of daily living such as speaking, mobility, dressing, self-care, eating and doing daily chores. These problems cause the stroke survivor to be dependent and increase their care needs (1-3). This need for care is usually met by family members. "Informal caregivers" are family members, close relatives, or friends who provide at-home care for a stroke survivor without regard to time constraints or reimbursement and who are not medically trained (4). Family caregivers take important responsibilities in the care of stroke survivors. These responsibilities may be listed as the daily activities of the survivor such as nutrition, dressing, bathing and moving or some other activities such as preparing food, shopping, household chores, home care, transportation, medication management, communication with the medical team, coordination and meeting the needs of other family members. These responsibilities may cause care burden (4-6). Care burden refers to negative objective and subjective results such as psychological, physical, economic and social problems, the deterioration of family relationships and feelings of failure to maintain control (5-7). Care burden

causes the family caregiver to postpone their own needs and problems such as a decrease in interpersonal relationships, impairment of own health, stress, depression, behavioral and cognitive problems and parental conflicts (2,4,6-8). These problems may cause a decrease in the quality of their life (2,4) and feelings of compassion (9,10). Compassion is frequently defined as sensitivity to the pain or suffering of another, coupled with a deep desire to alleviate that suffering (11-13). Caregivers define compassion as a feeling that emerges from witnessing another's suffering, which then motivates the desire to help others (14). Compassion plays an important role in a caregiving context involving strong individual connections and shared worldviews between the caregiver and the survivor (14,15). The sense of compassion affecting the behaviors of family caregivers towards survivors is therefore important.

In recent years, compassion has become a subject of increasing interest in the field of health. This is because compassion increases the quality of care and ensures that care is given individually, appropriately, correctly and with positive results (16-18). In studies on the effects of compassion

in health professionals on patients, it has been reported that compassion relieves patients, supports their treatment process and has positive effects on their physical health (9,19). Furthermore, in a study conducted with family caregivers of Alzheimer patients, it was found that family caregivers experienced less care burden by means of compassion, and compassion was found to provide psychological benefits such as decreased levels of depressive symptoms (15). Because of these important effects, compassion is recognized as one of the cornerstones of high-quality care by stroke survivors, clinicians and family caregivers (16-18). Compassion may play an important role in reducing negative symptoms and depressive symptoms experienced by family caregivers who help stroke survivors overcome many problems. It may also help them feel better, communicate with the patient who is receiving care better and provide better care for the patient (14,15,17,20). It is observed that the number of studies on compassion has increased in recent years and that the topic has been investigated among healthcare professionals in general (9,18,21-23). However, studies on compassion among the family members of family caregivers are almost non-existent (14,15). It was stated that caring for a family member is similar to professional care, and both types of care are based on compassion (24). In the literature, it is seen that there are many studies on care burden in family caregivers of stroke survivors (7,8,20,25,26). However, in the accessible literature, compassion in family caregivers of stroke survivors and the relationship between compassion and care burden have not been examined. Therefore, this study was conducted as a descriptive study to determine the relationship between care burden and level of compassion in family caregivers of stroke survivors.

2. METHODS

2.1. Ethical Considerations

The study was carried out in accordance with the Declaration of Helsinki's principles, and it received clearance from the university's Clinical Research Ethics Committee (approval number: 2018-01/08). The aim and method of the study were explained to the participants by the researcher, and verbal and written consent was obtained.

2.2. Design and Sample

This study was carried out with a descriptive, cross-sectional and correlational design.

The population of the study consisted of stroke survivors who visited the neurology service of a city hospital and received treatment and their family caregivers. A neurology department is the place where not only patients with neurological diseases-related problems (e.g., cerebrovascular disease, epilepsy, multiple sclerosis) are treated and given healthcare but also stroke survivors are given routine stroke treatment (antiaggregant, anticoagulant therapy). The number of stroke survivors visiting the neurology services

for a whole year was found to be 750 without repetition. The study was conducted between 01 March 2018 and 30 December 2018, and the minimum required sample size of the study was determined by power analysis. The sample size for the study was calculated as: $\alpha=.05$, $\beta=.20$ and $1-\beta=.80$. As a result, 280 stroke survivors and their family caregivers were included in the sample ($p=.80046$). The study was completed with 280 stroke survivors and family caregivers as there were no dropouts among the participants.

Among the people constituting the population, regarding family caregivers, the following criteria were defined as the inclusion criteria: caregiver being a close family member (such as mother, father, spouse and child), being 18 years old or older, not having hearing loss and being able to communicate, being responsible for the care of the survivor for at least 3 months, being able to speak and understand the Turkish language. In addition to these, the stroke survivor's and family caregiver's willingness to participate in the study was another inclusion criterion. Family caregivers of stroke survivors with transient ischemic attacks, professional caregivers, caregivers who provided care with charge and non-permanent family caregivers who provided short-term care to stroke survivors were excluded from the study. Stroke survivors diagnosed at least 3 months ago and those who agreed to participate in the study were included in the sample. Stroke survivors who had a transient ischemic attack were excluded from the sample. In the results of the study, while the word "literate" refers to a person who is able to read and write but has no formal education degree, the word "illiterate" refers to a person who is not able to read and write.

2.3. Data Collection Process

The data were collected using the following tools:

2.3.1. Family Caregiver Information Form: This form, developed by the researcher based on the literature, consisted of questions to determine the sociodemographic characteristics (e.g., age, marital status) and caregiving-related characteristics (e.g., caregiving time, the situation of receiving help from another individual while providing care) of the family caregivers.

2.3.2. Stroke Survivors Information Form: The form, which was developed by the researcher after the literature review and evaluated the sociodemographic characteristics (e.g., age, gender, marital status, educational status) and medical characteristics (e.g., stroke diagnose duration, number of strokes and type of stroke) of the stroke survivors, consisted of 12 questions.

2.3.3. The Zarit Burden Interview (ZBI): This form, developed by Zarit, Reever and Bach – Peterson, is a scale used to evaluate the care burden of caregivers for the person in need of care (27). The validity and reliability of the scale in Turkey were tested by İnci and Erdem, and its reliability coefficient was found as .99 (28). There are 22 items on the scale. The scale's items are scored on a 5-point Likert scale with a range

of 0 to 4. The scale yields results between a minimum score of 0 and a maximum score of 88. The results from the scale were analyzed in this study and classified into four categories of burden: none/mild (0–20 points), moderate (21–40 points), severe (41–60 points), and severely severe (61–88 points) (5,27,28). The scale's Cronbach's alpha value in this investigation was determined to be .92.

2.3.4. Compassion Scale (CS): The scale was developed by Pommier, and the validity and reliability of the scale were tested by Akdeniz and Deniz in Turkey (11,12). It consists of 24 items and six subscales: kindness, indifference, common humanity, separation, mindfulness and disengagement. The negligence, indifference and disengagement subscales of the scale are scored inversely. The average of the total scores is taken after this computation. The scale's items are scored on a 5-point Likert-type scale, with 1 representing "never" and 5 representing "always". The combined average is used to determine the overall scale's final score. In other words, the average score for the entire scale is calculated by adding the mean scores for each item, dividing the result by the number of items, and then averaging the results. Consequently, the overall scores. The scale's stated Cronbach's alpha value was .85 (12). The scale's Cronbach's Alpha score in this study came out to be .94. By taking into account the lowest and highest scores on the scale, the mean values for the scale were employed in the evaluation.

2.3.5. Modified Barthel Index (MBI): The Modified Barthel Index (MBI) was developed to determine the level of independence of individuals in activities of daily living. Kucukdeveci et al. conducted a validity and reliability study on neurology patients using the Turkish translation of the index created by Mahoney and Barthel in 1965 (29,30). The index's Cronbach's alpha value in the study conducted by Kucukdeveci et al. was calculated to be .93. A score of 0 to 20 on the index denotes "complete" dependence, a score of 21 to 60 denotes "severe" dependence, a score of 61 to 90 denotes "moderate" dependence, a score of 91 to 99 denotes "slight" dependence, and a score of 100 denotes independence (5,30). The scale's Cronbach's alpha coefficient in this study was found to be .90.

2.4. Procedure

The institution where the study will be conducted granted written consent prior to the study's start. The individuals who accepted to take part in the study gave their verbal and written consent after being informed about the research process. The researcher conducted face-to-face interviews with the family caregivers in the hospital setting by giving them a Family Caregiver Information Form, ZBI, and CS in a separate room. MBI for Activities of Daily Living, the Stroke Survivors Information Form, face-to-face interviews with the survivors' relatives, and a review of medical records were all used to gather data on the stroke survivors. The forms and scales were applied by the researchers. The application of the forms took approximately 30 minutes for each participant.

2.5. Data Assessment

Utilizing the computer program SPSS 22.0, the data were examined. Frequencies, percentages, and mean values were used in the statistical analysis of the data relating to the family caregivers and stroke survivors. In the quantitative data satisfying normal distribution assumptions, independent-samples t-test was applied, while Mann Whitney U test was applied in the groups that did not show normal distribution. In cases where there were more than two groups, analysis of variance (ANOVA) was used for the groups conforming with normal distribution, LSD Post Hoc test was used to find out the source of the difference in the groups. Kruskal-Wallis test was applied for the groups that did not show normal distribution, and Dunnett T3 Post Hoc test was used for determining the source of the difference between the groups. Pearson's correlation analysis was used to determine the relationships between the care burden, compassion and dependency level scales. Besides, multiple linear regression analysis was used for the variables predicting the family caregiver's compassion. The level of significance was determined as $p < .001$.

3. RESULTS

Among the family caregivers with a mean age of 42.60 ± 11.19 , it was determined that 37.5% of them were in the age group of 40-50, 57.5% were women, 48.9% had an educational background of high school or above, 82.5% had social security, 67.5% were in a nuclear family, 71.1% lived with the stroke survivors, and 48.2% provided care for a period between 3 and 9 months. Among the stroke survivors, it was seen that 63.6% of them were in the age group of 62 or older, 52.1% were male, 70% were married, 41.1% were illiterate, 83.6% were not employed, 71.4% were diagnosed with stroke between the periods of 3 months and 4 years, 57.1% had one stroke attack, 53.2% of them experienced ischemic stroke, and 53.9% had a severe level of dependency.

Table 1. ZBI, CS subscale and total mean scores of the family caregivers, and distribution of score ranges according to ZBI (n=280)

Scales	X \pm SD	Min	Max
ZBI	34.30 \pm 17.42	8.00	80.00
		n	%
None (0-20 points)		69	24.6
Moderate care burden (21-40 points)		127	45.4
Severe care burden (41-60 points)		54	19.3
Highly severe care burden (61-88 points)		30	10.7
CS	3.71 \pm 0.85	1.21	4.83
Kindness	3.94 \pm 0.86	1.00	5.00
Indifference*	3.56 \pm 1.18	1.00	5.00
Common humanity	3.58 \pm 0.90	1.00	5.00
Separation*	3.76 \pm 1.06	1.00	5.00
Mindfulness	3.68 \pm 0.91	1.00	5.00
Disengagement*	3.76 \pm 1.10	1.00	5.00

ZBI: Zarit Burden Interview CS: Compassion Scale, SD: Standard Deviation.
* Scoring for the total points of compassion was calculated in reverse order.

As presented in Table 1, the mean ZBI and CS scores of the participants (34.30±17.42 and 3.71±0.85 respectively) were close to average. The analysis of the mean scores for the subscales of the CS revealed that the participants' mean scores for kindness (3.94±0.86), indifference (3.56±1.18), common humanity (3.58±0.90), separation (3.76±1.06), mindfulness (3.68±0.91) and disengagement (3.76±1.10) were close to average (Table 1). According to the ZBI score ranges of the family caregivers, it was determined that 45.4% of them had a moderate level of care burden.

The results of the comparisons of some variables of the family caregivers to their ZBI and CS mean scores are shown in Table 2. Accordingly, it was found that the mean care burden score of those with the following factors was significantly higher than the other groups: those in the age ranges of 40-50 years and 51 years or older, those who were literate with no formal education degree or illiterate, those without any social security, those without any chronic disease, those living with the stroke survivor, and those providing care for a period of 31 months or longer (p<.001). The compassion mean scores of the following groups were significantly higher than the other groups: those in the age range of 18-28 years, those with an education level of high school or higher education, those with social security, those with a nuclear family, those

who had a chronic disease, those who were not living with the stroke survivors, and those providing care for a period of 3-9 months (p<.001) (Table 2).

The results of the comparisons of some variables of the stroke survivors to their mean ZBI and mean scores are shown in Table 3. Accordingly, the mean care burden score of those with the following factors was significantly higher than the other groups: those in the age range of 62 years or older, those who were single, those who were literate, those who were employed, those with a stroke diagnosis for 10 years or longer, those with two or more stroke attacks, those who had experienced ischemic stroke, and those who were completely dependent (p<.001). Additionally, the mean compassion scores of the following groups were significantly higher than the other groups: those in the age range of 40-61 years, those who were married, those with an education level of high school or higher education, those who were not employed, those with a stroke diagnosis for 3 months to 4 years, those who had experienced one stroke attack, those who had experienced a hemorrhagic stroke, and those who were slightly dependent (p<.001). The mean total MBI score of the stroke survivors was found to be 47.14±22.68, and they were found to be severely dependent in general (Table 3).

Table 2. The comparison of some variables of the family caregivers with ZBI and CS mean scores

Variables	N	%	ZBI		CS		
			X± SD	Test	X± SD	Test	
Mean of age	42.60±11.19						
Age	18-28	46	16.4	27.07±12.24	F=14.147 p=.000 *3-4>1-2	4.01±0.51	x ² _{kw} =16.821 p=.001 **1-2>3-4
	29-39	68	24.3	28.21±14.20		3.92±0.79	
	40-50	105	37.5	35.58±17.24		3.63±0.81	
	51 <	61	21.8	44.36±19.21		3.40±1.05	
Education level	Illiterate	55	19.6	40.82±19.17	x ² _{kw} =20.903 p=.000 **1-2-3>4	3.29±1.08	x ² _{kw} =27.834 p=.000 **4>1-2-3
	Literate but not graduate of any school	15	5.4	41.67±21.20		3.25±1.04	
	Primary school	73	48.9	37.22±18.03		3.63±0.79	
	Middle school and higher	137		29.33±14.32		3.97±0.64	
Social security	There is	231	82.5	32.30±15.61	t=-3.462 p=.001	3.87±0.70	U=2902.000 p=.000
	No	49	17.5	43.76±22.02		2.95±1.08	
Family Type	Nuclear family	189	67.5	33.33±16.54	t=1.353 p=.177	3.83±0.76	U=6510.000 p=.001
	Extended family	91	32.5	36.33±19.04		3.46±0.96	
Chronic disease presence	There is	61	21.8	30.60±14.30	t=7.349 p=.000	3.91±0.64	U=32.076 p=.000
	No	219	78.2	47.59±20.91		2.99±1.09	
Living with the patient	Living Together	199	71.1	36.35±17.79	t=3.316 p=.001	3.59±0.89	U=5500.000 p=.000
	Non-Living	81	28.9	29.28±15.45		4.02±0.67	
Duration of caregiving	3-9 mo	135	48.2	27.23±12.08	F=52.678 p=.000 *5>1-2-3-4	4.06±0.47	x ² _{kw} =88.319 p=.000 **1-2-3-4>5
	10-16 mo	51	18.2	28.88±12.69		3.96±0.55	
	17-23 mo	27	9.6	34.19±16.10		3.94±0.71	
	24-30 mo	18	6.4	37.50±17.33		3.52±0.66	
	31 – 40 mo	49	17.5	58.33±13.28		2.44±0.87	

p<.001, ZBI: Zarit Burden Interview, CS: Compassion Scale, SD: Standard Deviation, F: One Way Anova, x²_{kw}: Kruskal Wallis Test, t: Independent Samples t Test, U: Mann-Whitney UTest, *LSD Post Hoc Test, ** Dunnet T3 Post Hoc Test

Table 3. The comparison of some variables of the stroke survivors with the family caregivers' ZBI and CS mean scores

Variables	n	%	ZBI		CS		
			X± SD	Test	X± SD	Test	
Age	40-61	102	36.4	30.71±16.07	t=2.644 p=.009	3.92±0.71	U=7061.000 p=.002
	62 <	178	63.6	36.37±17.86		3.59±0.91	
Marital status	Married	196	70.0	29.56±14.63	t=-6.976 p=.000	3.92±0.71	U=4798.000 p=.000
	Single	84	30.0	45.37±18.43		3.23±0.96	
Education level	Illiterate	115	41.1	36.09±18.28	F=7.150 p=.000 *1-2-3>4	3.54±0.95	x ² _{kw} =31.485 p=.000 * *4>1-2-3
	Literate but not graduate of any school	50	17.9	40.42±17.82		3.51±0.85	
	Primary school	67	23.9	33.01±16.61		3.80±0.70	
	Middle school and higher	48	17.1	25.46±11.92		4.20±0.55	
Employment status	Employed	46	16.4	35.35±17.54	t=2.286 p=.023	3.66±0.88	U=4207.000 p=.019
	Unemployed	234	83.6	28.98±15.93		3.99±0.64	
Duration of stroke diagnosis	3 mo-4 year	200	71.4	12.98±0.92	F=43.444 p=0.000 *2-3>1	1.09±0.18	x ² _{kw} =53.967 p=.000 * *1>2-3
	5-9 year	46	16.4	17.43±2.57		0.87±0.12	
	10 year <	34	12.1	22.83±3.92		0.59±0.04	
Number of stroke event	1	160	57.1	30.93±12.81	t=4.032 p=.000	3.94±0.64	U=6156.500 p=.000
	2 ≤	120	42.9	38.81±21.36		3.40±0.99	
Stroke type	Ischemic	149	53.2	38.05±19.71	t=4.032 p=.000	3.46±0.93	U=6156.500 p=.000
	Hemorrhagic	131	46.8	30.05±13.20		4.00±0.64	
Dependency level	Total dependent	47	16.8	52.74±18.64	F=38.021 p=.000 *1>2-3-4	2.86±1.01	x ² _{kw} =77.560 p=.000 * *2-3-4>1
	Severe dependent	151	53.9	34.17±15.81		3.67±0.76	
	Moderate dependent	81	28.9	23.93±8.94		4.27±0.36	
	Slight dependent	1	0.4	28.00±0.00		4.54±0.00	

p<.001, ZBI: Zarit Burden Interview, CS: Compassion Scale, SD: Standard Deviation, F: One Way Anova, x²_{kw}: Kruskal-Wallis Test, t: Independent Samples t Test, U: Mann-Whitney UTest, *LSD Post Hoc Test, ** Dunnet T3 Post Hoc Test

The analyses that were conducted in this study revealed a significant negative correlation between the family caregivers' care burden and compassion total scores (r=-.786), a significant positive correlation between the patients' MBI independence levels and the family caregivers' total compassion scores (r =.607), and a significant moderate negative correlation (p<.001) between the family caregivers' care burden and the patients' MBI independence level (r=-.607) (Table 4).

Table 4. The correlation between CS, ZBI and MBI mean scores

Variables	1	2	3
1.CS	1		
2. ZBI	-0.786**	1	
3. MBI (patient)	0.607**	-0.623*	1

CS: Compassion Scale, ZBI: Zarit Burden Interview, MBI: Modified Barthel Index. *Correlation is significant at the .05 level **Correlation is significant at the .01 level.

Table 5 shows the results of the regression analysis for the prediction of CS scores by ZBI and MBI. The variables of care burden and dependence level showed a significant relationship with compassion (R=.800, R²=.641, p<.001). The care burden and dependence level variables explained 64% of the total variance in compassion. According to the standardized regression coefficient (β), the care burden and dependence variables were found to be significant predictors of compassion. According to the results of the t-test on the significance of the regression coefficients, the care burden

of the family caregivers and the dependency level of the stroke survivors were significant predictors of compassion. As a result, it was determined that having higher care burden levels predicted lower compassion scores, and having a high level of dependency in the stroke survivors predicted higher levels of compassion in the caregivers (Table 5).

Table 5. Regression analysis of the prediction of CS scores according to ZBI and MBI

Variables	B (95% CI)	SE	β	t	p
Constant	4.491	.146		30.679	.000
ZBI	-0.033	0.002	-0.667	-14.480	.000
MBI	0.017	0.002	0.449	8.136	.000

R=0.800 Adj.R2=0.641 F_(2,277)=247.007 p<.001. Adj.R²: Adjusted R square, ZBI: Zarit Burden Interview, MBI: Modified Barthel Index, t: Independent Samples t Test, B: Partial Regression coefficient, SE: Standart Error, β: Standard partial regression coefficient; 95% CI: 95% confidence interval.

4. DISCUSSION

In this study, the mean ZBI scores of the family caregivers of stroke survivors were found to be on a moderate level. This result was similar to studies conducted with family caregivers of stroke survivors both outside Turkey (7,20,26) and in Turkey (5,6,31). However, there are also studies in the literature that have provided results which differed from the results of this study. In their study on the family caregivers of stroke survivors, Tosun and Temel found that family caregivers

suffered a severe burden of care (47.42 ± 11.91) (31). The difference between the results of this study and those of Tosun and Temel may have stemmed from the difference between the durations of the caregiving processes (31). In Tosun et al.'s study, the duration of the caregiving process (60 months or more) was longer than that in this study (36-40 months), which was considered to affect the outcome (31). In the literature, it was stated that the duration of the caregiving process affects the burden of care, and the burden of care increases as this duration increases (1).

In this study, which is the first study examining compassion in family caregivers of stroke survivors, the compassion scores of the family caregivers were found to be moderate. In their studies on the compassion levels of parents of children with special care needs, Avşaroğlu and Güleş found the level of compassion to be high (32). The difference between the results of the study of Avşaroğlu and Güleş and this study may be due to the fact that the samples were different (32). While Avşaroğlu and Güleş were working with parents of children with special care needs, this study was conducted with family caregivers who were providing care for stroke survivors (32). Being a mother or father requires caring for one's children in a dedicated way. However, it was reported that parents of children with disabilities can consider their children's birth as divine grace because they are very good and compassionate (33). Additionally, the care provided for elderly individuals is perceived as more difficult for family caregivers, and this leads to heavy responsibilities, stress, frustration, anger and exhaustion in family caregivers (34,35). Moreover, the finding of the reduced compassion scores of the family caregivers who were included in this study as the age of the stroke survivors increased could be shown as another finding supporting this idea.

When some demographic characteristics of the family caregivers and the relationships between these characteristics and their care burden and compassion levels were examined, care burden and compassion were found to be significantly related to age. In this study, the family caregivers who were 51 years old or older had higher care burden levels than those in other age groups, and their compassion scores were lower. This result was consistent with studies in the literature on the relationship between care burden and age (5,25,36). However, in studies conducted in different samples, unlike the result of this study, it was seen that as age increases, compassion scores also increase (9,21). There are also some other studies showing no significant relationship between age and compassion (23,37). Education level is a factor that affects the care burden (36,38) and compassion of caregivers (21). In this study, the education levels of the family caregivers were found affect their care burden and compassion scores, and as the education levels of the family caregivers increased, their care burden decreased, and their compassion increased. This finding was consistent with those of some studies in the literature that have investigated care burden in caregivers of stroke survivors (1,39) and one study on compassion in nurses (21). This result is important in terms of showing that by means of increasing the level of education, compassion may be increased, and care burden

may be decreased. Additionally, the higher the education level of family caregivers is, the greater the financial means of theirs and the lesser their burden of care may be. While no significant relationship was found between family type and care burden, a significant relationship was found between family type and compassion. It was determined that the family caregivers with extended families had lower levels of compassion. While this result was similar to a study showing that family caregivers of stroke survivors are not affected by family type (34), it was different from studies in which compassion was examined in nursing students (22) and classroom teachers (37) and showed that there was no relationship between compassion and family type.

In this study, the family caregivers without any chronic diseases had higher care burden levels. This result differed from the results of some previous studies (36,38). This result may be interpreted as that those who have chronic diseases may be strengthened while adapting to their disease, and those who do not have any chronic disease experience more care burden during the caregiving period by feeling under more pressure. Additionally, in this study, like some other studies (34,38), it was determined that the care burden levels of the family caregivers increased as their caregiving durations increased. On the other hand, long-term care may lead to more physical, emotional, social and financial problems as family caregivers are exposed to various stressors for prolonged durations (34,40). It is thought that this may lead to a decrease in the compassion levels of family caregivers. Therefore, by evaluating the caregiver's burden of care and compassion levels and by implementing supportive interventions to reduce the duration of the caregiving process, the caregiver's burden of care may be reduced, and their compassion levels may be improved or at least prevented from increasing.

In this study, it was determined that some characteristics of the stroke survivors such as their age, marital status, level of education, working status, duration of stroke diagnosis, number of strokes, stroke type and level of dependency affected care burden and compassion. In the comparison of the results of this study to the results of other studies in the literature where care burden has been examined, it was seen that this study produced similar results with regard to the survivor's age (5,34), education level (34,38) and level of dependency (5) and dissimilar results with regard to marital status (8,34).

The care burden experienced during the caregiving process may cause family caregivers to experience negative emotions, and they may neglect their own needs and feel less compassion in the process of time (9,10). In this study, it was determined that as the care burden levels increased, the compassion levels decreased. Additionally, it was found that the compassion levels of the family caregivers significantly predicted their care burden levels. Similar to the results of this study, in a study which investigated compassion in spouses who cared for Alzheimer's patients, it was found that compassion reduced care burden (15). Compassion enhances the quality of care by providing individual, appropriate and accurate care, it allows both better clinical outcomes

for stroke survivors and improved quality of life for family caregivers, and it causes a decrease in the rates of negative consequences such as burnout and feelings of care burden (16,41). Studies have shown that compassion increases the happiness, positive thinking and positive mood of family caregivers (42), and it has been proven that compassion is a significant predictor of subjective well-being (43). Given that caregivers of stroke survivors are mostly family members, and they experience care burden, both for the health of the family caregiver and the stroke survivor, it may be stated that the examination of compassion and the development of methods to increase compassion or reduce care burden are important issues.

Another finding obtained in this study was that as the dependency level of the stroke survivors increased, the compassion scores of the family caregivers decreased. It was stated that an increase in the dependency level of survivors may cause physical and mental exhaustion in the family caregiver by increasing the time the family caregiver devotes to care, reducing the time devoted to their own life and responsibilities and limiting their social life (34,40). This situation may also be effective in lowering the compassion scores of family caregivers of stroke survivors. Thus, it was stated that compassion may change over time due to stress, lack of support and learned behaviors devoid of compassion (13).

5. CONCLUSIONS

In this study, it was found that the care burden and compassion levels the family caregivers of stroke survivors were moderate. However, there was a negative, strong and significant relationship between the family caregivers' scores of care burden and compassion. According to the results of the study, the care burden levels of the family caregivers of stroke survivors were effective on their compassion levels. Therefore, in order for survivors to receive better quality care, it is recommended to determine care burden and compassion levels, develop studies and methods for reducing care burden and raising compassion and investigate the matter with a larger population for a better understanding of the issue. Determining the care burden and compassion levels of family caregivers of stroke survivors will contribute to improving the health of both the family caregiver and the stroke survivor.

This research had several restrictions. First off, the results cannot be applied to people outside of the tiny sample size used and one health center. Second, because the study was conducted in a clinical setting, it cannot be used to judge the care provided at home. This restriction could be removed by conducting comparable research in the home setting and reevaluating the results.

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