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Self-Efficacy, Quality of Life and Care Burden in Caregivers of Patients with Dementia

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ABSTRACT

Purpose: This study aimed to determine the relationship between self-efficacy, quality of life, and care burden in caregivers of patient with dementia.
Method: In a descriptive study, 145 individuals who cared for patients with dementia of the Alzheimer's type were participated. The data were collected using "Patient Caregiver Presentation Form", "Self-Efficacy Scale", "SF-36 Quality of Life Scale", "Caregiver Burden Scale", and "Barthel Index".
Results: The caregivers were 77.9% female, 35.9% university graduate, 74.5% married, with an average age of 53.34±11 years. Our results found a significant negative correlation among the mean scores of the self-efficacy and the care burden of the caregivers ($p<0.05$). Also, the study showed a significant negative correlation between the mean of the care burden and the quality of life of the caregivers ($p<0.05$). It was determined that as the dependence level of the patients increased, the caregiver burden of the caregivers increased and their self-efficacy levels decreased ($p<0.05$).
Conclusion and Suggestions: This study showed that there was a negative relationship between self-efficacy and quality of life and care burden in caregivers of patients with alzheimer type dementia. So, it is recommended to do more comprehensive studies and interventions to enhance self-efficacy and quality life of the caregivers of Alzheimer patients.

Demans Hastalarına Bakım Verenlerin Öz Yeterliliği, Yaşam Kalitesi ve Bakım Yükü

Makale Bilgileri

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ÖZ

Amaç: Bu çalışma, Alzheimer tipi demans hastalarına bakım veren bireylerin öz yeterlilik düzeyleri ile yaşam kalitesi ve bakım yükü arasındaki ilişkiyi belirlemek amacıyla yapılmıştır.
Yöntem: Bu tanımlayıcı çalışmanın örneklemini Alzheimer tipi demanslı hastalara bakım veren 145 birey oluşturmuştur. Veriler "Hasta Bakım Veren Tanıtım Formu", "Öz Yeterlilik Ölçeği", "SF-36 Yaşam Kalitesi Ölçeği", "Bakıcı Yükü Ölçeği" ve "Barthel İndeksi" kullanılarak toplanmıştır.
Bulgular: Bakım verenler 53.34±11 yaş ortalamasında %77.9'u kadın, %35.9'u üniversite mezunu, %74.5'i evlidir. Çalışmada bakım verenlerin Öz Yeterlik Ölçeği ile Bakım Veren Yükü Ölçeği ve SF-36 Yaşam Kalitesi Ölçeği puan ortalamaları arasında negatif yönde anlamlı bir ilişki bulunmuştur ($p<0.05$). Çalışma ayrıca bakım verenlerin Bakım Veren Yükü Ölçeği puan ortalamaları ile SF-36 Yaşam Kalitesi Ölçeği puan ortalamaları arasında negatif yönde anlamlı bir ilişki olduğunu göstermiştir ($p<0.05$). Hastaların bağımlılık düzeyi arttıkça bakım verenlerin bakım veren yükünün arttığı ve öz-yeterlik düzeylerinin azaldığı belirlendi ($p<0.05$).
Sonuç ve Öneriler: Bu çalışma alzheimer tipi demanslı hastalara bakım verenlerde öz yeterlilik, yaşam kalitesi ve bakım verme yükü arasında ilişki olduğunu göstermiştir. Alzheimer hastalarına bakım verenlerin öz-etkililiklerini ve yaşam kalitelerini artırmaya yönelik daha kapsamlı çalışmaların ve müdahalelerin yapılması önerilmektedir.

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INTRODUCTION

Alzheimer's disease (AD) is the most common form of dementia. The worldwide prevalence of AD is 6-10% for patients over 65, 30-47% for patients over 85, and it is stated that the prevalence increases by two folds in every five years after 60 years old (Ertekin et al., 2015; World Health Organization, 2021). According to 2019 data of the annual Turkish Health Ministry Statistics, the incidence of AD in patients over 65 within the last 12 months was 6% (6% in women and 6% in men) (Republic of Turkey Ministry of Health General Directorate of Health Information Systems, 2021).

AD is a chronic, progressive and neurodegenerative disease that affect patients physically, psychosocially, economically, and quality of life. All these problems seen in patients can significantly affect the lives of their caregivers too (Akyar & Akdemir, 2009; Şahiner, 2012; Ertekin et al., 2015). It is reported that physical, mental, and social problems faced by caregivers during the care of dementia patients negatively affect their quality of life, and they are termed ‘undiagnosed patients’ because they experience exhaustion. Therefore, it is of paramount importance to provide caregivers with strategies to overcome their own and patients’ problems, increase their knowledge and skills to improve their independence and quality of life. For this purpose, it would be beneficial to increase our understanding of the concept of self-efficacy, quality of life, and care burden in these caregivers as well as patients (Gözüm &Aksayan, 1999; Grano et al., 2017).

One of the most important factors affecting the caregiver burden in dementia patients is the patient's cognitive, behavioral and psychological signs and symptoms, and the patient's functional level associated with them. In other words, it is the deterioration in the physical abilities of the patient, which is measured by the instrumental activities of daily life and activities of daily living. As the disease progresses, patients with Alzheimer's disease lose their functional, cognitive functions and communication with the environment, and become dependent on the bed and caregivers (Gündüz Saraç, 2020). In the previous studies have shown that there is a relationship between the functional status of Alzheimer's patients and their caregivers' quality of life (Landeiro et al., 2018; Kang et al., 2017) and care burden (Canonici et al., 2012)

Self-efficacy is the judgment and belief of individuals about themselves regarding how they would be successful in coping with the difficulties that they may encounter. Self-efficacy of caregivers is defined as the belief of caregivers for their ability to cope with difficulties and stress they encounter during the caring process and their ability to fulfill their caring responsibility correctly and efficiently (Gözüm &Aksayan, 1999; Grano et al., 2017). On the other hand, the concept of quality of life includes the individual's perception of well-being in physical, social and psychological fields as well as the satisfaction they receive from daily life. The concept of health-related quality of life (HRQoL) is a multidimensional concept, and it is a structure that includes the general health perception of an individual regarding the effect of a disease in various aspects (Özer, 2010). Caregiver burden has been defined as a multidimensional response to physical, psychological, emotional, social and financial stressors associated with the caregiving experience (Buhse, 2008).

It has been stated that caregivers with a high self-efficacy found the caring tasks as handleable despite they experience difficulty, while those with a low self-efficacy found the caring tasks as exceeding their capacity and stressors (Romero-Moreno et al., 2011; Cheng et al., 2013; Grano et al., 2017). Furthermore, it has been underlined that low self-efficacy may cause conditions such as depression, self-recrimination and rejection. However, high self-efficacy in caregivers may increase their motivation and life satisfaction, help them to meet their self-care needs adequately, increase their ability to take responsibility of their health, and perform life activities without depending on others (Özer, 2010; Grano et al., 2017). It is highlighted that the caregivers of Alzheimer's patients should have a high level of self-efficacy in order to overcome the difficulties they experience (Romero-Moreno et al., 2011; Cheng et al., 2013; Grano et al., 2017). So, the review of literature emphasized the importanceof self-efficacy and it was indicated that a high level of self-efficacy has a positive effect on the quality of life, physical and mental health of caregivers for caregivers of dementia patients (Stuifbergen et al., 2000; Gallagher et al., 2011; Romero-Moreno et al., 2011). Studies are evaluating the care burden and quality of life of Alzheimer's patients in Turkey, but there is no study evaluating the relationship between self-efficacy levels and quality of life and care burden in caregivers of Alzheimer's type dementia patients. Therefore, this study aimed to determine the relationship between self-efficacy, quality of life, and the care burden in caregivers of dementia of Alzheimer's type.

Questions of the research

- What is the care burden in caregivers of patient with dementia?
- What is the quality of life of caregivers of patient with dementia?
- What is the self-efficacy in caregivers of patient with dementia?
- What is the relationship between self-efficacy, quality of life, and care burden in caregivers of patient with dementia?
- How does the dependency level of their patients affect the quality of life, self-efficacy, and care burden in caregivers of patient with dementia?

METHOD

Research Design

This was a descriptive study that was conducted between June 2016 and December 2016.

Research Sample

The participants consist of individuals who care for patients with dementia of Alzheimer's type who admitted to the geriatric polyclinic of a university hospital and the neurology polyclinic of a state hospital, located in Turkey, with the diagnosis of dementia of Alzheimer's type. NCSS-PASS Statistical Package for the Social Sciences - Power Analysis and the sample Size 2008 software was used to determine sample size of the study. The determination of sample size was based on similar studies on this issue (Gözüm &Aksayan, 1999; Şahiner, 2012; Ertekin et al., 2015). We targeted to include caregivers of at least 144 Alzheimer patients at 5% error, 95% confidence interval and 80% power levels. A total of 145 persons gave care to patients with Alzheimer's type dementia who met the inclusion criteria, accepted to participate and gave written and verbal consents. The inclusion criteria were the persons delivering primary care to their patients diagnosed with Alzheimer type dementia, aged more than 18 years, and accepted to participate in the study. To collect data, an appropriate setting was prepared by the researcher in the relevant institutions, and the data were collected through face-to-face interviews with the participants

Research Instruments and Processes

“Demographic Form”, “Self-Efficacy Scale”, “SF-36 Quality of Life Scale”, “Caregivers Burden Scale” and “Barthel Index Scale” for patients with Alzheimer type dementia were used to collect data.

Demographic Form: This form was prepared by the researcher based on the relevant literature (Zarit et al., 1980; Gözüm &Aksayan, 1999; Stuifbergen et al., 2000; Buhse, 2008; Akyar & Akdemir, 2009; Özer, 2010; Romero- Gallagher et al., 2011; Moreno et al., 2011; Şahiner, 2012; Cheng et al., 2013; Grano et al., 2017). This form consists of 35 questions containing the descriptive characteristics of caregivers and patients.

Caregiver Burden Scale: Caregiver Burden Scale was developed by Zarit, Reever, and Bach-Peterson in 1980 (Zarit et al., 1980). The validity and reliability of the scale was conducted in our country by İnci and Erdem in 2008, and Cronbach alpha internal consistency coefficient was found at 0.95. In this study, Cronbach's alpha internal consistency coefficient was found at 0.95. A minimum of 0 and a maximum of 88 points can be obtained from the scale. The high scores obtained from the scale indicate the higher experienced problems (İnci & Erdem, 2008).

Self-Efficacy Scale: Self-efficacy scale is a likert type self-reporting scale developed by Sherer et al. in 1982 to assess behaviour and behavioural changes (Sherer & Maddux, 1982). Its validity and reliability in our country was studied by Gözüm and Aksayan in 1999, and Cronbach alpha internal consistency coefficient was found at 0.81 (Gözüm &Aksayan, 1999). In this study, Cronbach's alpha internal consistency coefficient was found at 0.90. This scale has four subdimensions: (i) initiating activities; (ii) maintaining the activities; (iii) completing the activities; and (iv) struggling with difficulties. A minimum of 23 and a maximum of 115 points can be obtained from the scale. High scores obtained from the scale show a high level of general self-efficacy perception (Sherer & Maddux, 1982; Gözüm &Aksayan, 1999).

SF-36 Quality of Life Scale: SF-36 scale developed by Ware and Sherbourne in 1992 is used to evaluate physical and mental health (Ware & Sherbourne, 1992). In our country, validity and reliability of the scale was studied by Koçyiğit et al. in patients with osteoarthritis and chronic lower back pain in 1999, and Cronbach alpha internal consistency coefficient was found at 0.73 to 0.76 (Koçyiğit ve ark., 1999). In this study, Cronbach's alpha internal consistency coefficient was found at 0.71. The scale evaluating health related quality of life consists of 36 items and provides measurement of 8 dimensions including physical functioning (10 items), social functioning (2 items), physical role limitation (4 items), emotional role limitation (3 items), mental health (5 items), vitality/energy (4 items), body pain (2 items), and general health (5 items). Each of the eight subscales is pointed between 0-100, and 0 point indicates a poor health status and 100 points shows a good health status (Ware & Sherbourne, 1992; Koçyiğit et al., 1999).

Barthel Index Scale: Barthel index was developed by Barthel and Mahoney in 1965 to evaluate the independence and dependence levels of individuals in their activities (Mahoney & Barthel, 1965). In our country, validity and reliability of the scale was studied by Küçükdeveci et al. with neurological patients, and Cronbach's alpha internal consistency coefficient was found as 0.93 (Küçükdeveci et al., 2000). In this study, Cronbach's alpha internal consistency coefficient was found at 0.94. Barthel index evaluates physical limitation of daily activities by 10 items such as eating, taking bath, daily care, dressing, defecation, voiding, going to the toilet, getting up from the bed, walking around, and climbing upstairs (Mahoney & Barthel, 2003; Küçükdeveci et al., 2000).

Data Analysis

The data were analyzed using a statistical software Statistical Package for Social Sciences (SPSS) version 20.0. Since the data were not normally distributed, non-parametric tests such as the Mann-Whitney U test were used to compare scores between two groups. Also, the Kruskal Wallis test was used to compare scores of three or more groups. Spearman correlation analysis was used to examine the relationship between the variables.

Ethic

The Gazi University Ethical Committee approved the study and written permission was taken from the institutions where the study was performed (23/05/2016, 77082166-604.01.02-63561). Written consent was received from all participants using the “Informed Voluntary Consent Form for Participants” while describing the objective of this study.

RESULTS

The characterstic of 145 caregivers of patients with Alzheimer Type Dementia are shown Table 1. Features of the caregivers regarding care are shown in Table 2.

Table 1. *Descriptive Characteristics of the Caregivers (n=145)*

Age	**Mean±SD** 53.34±11 (min–max=20-88)	
	n	**%**
≤39 years	12	8.3
40-49 years	38	26.2
50-59 years	53	36.6
60 +	42	28.9
Gender		
Female	113	77.9
Male	32	22.1
Educational status		
Primary school	49	33.8
Middle school	8	5.5
High school	36	24.8
University	52	35.9
Marital status		
Married	108	74.5
Single	37	25.5
Family type		
Nuclear	115	79.3
Extended	30	20.7
Social security		
Yes	140	96.5
No	5	3.5
Working status		
Yes	43	29.7
No	102	70.3
Income		
Income less than expenditure	43	29.7
Income equal to expenditure	100	68.9
Income more than expenditure	2	1.4
Degree of the relationship with the patient		
Spouse	32	22.1
Child	104	71.7
Grandchild	4	2.8
Caregiver	5	3.4
Diagnosed health problem		
Yes	76	52.4
No	69	47.6
Level of dependence		
Totally dependent	20	13.8
Seveley dependent	42	28.9
Moderately dependent	52	35.9
Mildly dependent	13	9.0
Totally independent	18	12.4

Table 2. *Features of the Caregivers Regarding Caregiving (n=145)*

Caregiving Features and the Problems	n	%
Receiving support in housework		
Yes	42	29.0
No	103	71.0
Receiving support in caregiving		
Yes	15	10.3
No	130	89.7
Supporter persons in caregiving		
Yes	103	71.0
No	42	29.0
Time of resting during day		
One hour	50	34.5
One – three hours	49	33.8
Three – five hours	44	30.3
More than five hours	2	1.4
Time allocated to oneself		
One hour	56	38.6
One – three hours	45	31.0
Three – five hours	43	29.7
More than five hours	1	0.7
Time spent outside during day		
One hour	55	37.9
One – three hours	48	33.1
Three – five hours	41	28.3
More than five hours	1	0.7
Time of caring the patient		
One – five hours	24	16.6
Six hours and more	121	83.4
Having difficulty in caregiving		
Yes	123	84.8
No	22	15.2
Difficulties encountered in caregiving *		
Self-care	71	49.0
Communication	102	70.3
Sleep	13	9.0

When the scale mean scores of the caregivers were evaluated, it was found that their self-efficacy was good, their quality of life was poor, and their caregiver burden was moderate (Table 3).

Table 3. *Mean Scores of Caregiver Burden, Self-Efficacy and SF-36 Quality of Life Scales (n=145)*

	Subdimensions	**Mean ± SD**	**Min-Max**
SF-36 Quality of Life Scale	Physical function	32.14±18.13	0-50
	Physical role limitation	47.59±45.1	0-100
	Body pain	65.71±19.69	9.09-81.82
	General health	37.32±6.86	16-52
	Vitality	40.23±7.75	20.83-66.67
	Social function	68.1±28.98	0-100
	Emotional role limitation	41.38±43.44	0-100
	Mental health	36.67±7.67	16.67-53.33
Self-Efficacy Scale	Beginning to behaviour	32.87±5.26	14-40
	Maintain the behaviour	27.72±5.27	14-35
	Completing the behaviour	18.99±4.04	8-25
	Struggle with obstacles	8.23±2.52	3-15
	Total Score	87.81±14.33	53-115

	Subdimensions	N	%
Caregiver Burden Scale	None	22	15.17
	Mild	35	24.14
	Moderate	50	34.48
	Severe	38	26.21
	Total Score	44.55±20.92	3-88

The mean score of the caregiver burden scale of the caregivers with moderate, mildly dependent and totally independent patients was found statistically significantly lower than those with totally and severely dependent patients ($p<0.05$). Caregivers of moderate, mildly dependent and totally independent patients; self-efficacy scale total score and mean scores for starting and maintaining behavior were found statistically significantly higher than those who were totally and severely dependent ($p<0.05$). In addition, the mean score for struggle with obstacles of totally independent patients was found statistically significantly higher than those with totally dependent patients ($p<0.05$). The mean scores of physical role difficulty, pain, social function, emotional role and mental health difficulty in caregivers with full and severely dependent patients were found to be statistically significantly lower than those with moderate, mildly dependent and totally independent patients ($p<0.05$). (Table 4, Table 5).

Table 4. *Mean Scores of Caregiver Burden and Self-Efficacy Scales of Caregivers According to Level of Dependence of Patient (n=145)*

Level of Dependence According to Barthel Index	Caregiver Burden Scale	Subdimensions of Self-Efficacy Scale				Self-Efficacy Scale Total Score
		Beginning to behaviour	Maintain the behaviour	Completing the behaviour	Struggle with obstacles	
Totally Dependent	61±18.47	31±5.08	26.2±487	18.35±4.48	6.85±2.06	82.4±13.55
Seveley Dependent	53.36±15.53	31.93±5.29	27.12±5.4	18.45±3.62	8±2.11	85.5±12.8
Moderately Dependent	40.38±19.09	32.85±5.38	27.5±5.21	18.87±3.88	8.33±2.16	87.54±13.92
Mildly Dependent	35.23±17.6	33.46±4.48	27.77±5.4	18.85±5.15	7.85±2.67	87.92±16.34
Totally Independent	24.5±19.44	36.78±3.73	31.44±4.1	21.39±3.62	10.28±3.49	99.89±12.96
H	42.255	15.742	12.885	7.676	11.659	15.426
P	0.001**	0.003**	0.012**	0.104	0.020**	0.004**

* Mann Whitney U Test was used, $p<0.05$

** Kruskal Wallis H Test was used, $p<0.05$

Table 5. *Mean Scores of SF-36 Quality of Life Scale of Caregivers According to Level of Dependence of Patient (n=145)*

Level of Dependence According to Barthel Index	Subdimensions of SF-36 Quality of Life Scale							
	Physical function	Physical role limitation	Body pain	General health	Vitality	Social function	Emotional role limitation	Mental health
Totally Dependent	24.75±16.97	16.25±36.52	54.55±22.46	37.6±5.41	43.54±6.69	50.62±26.12	13.33±31.34	39.67±7.33
Seveley Dependent	30.12±17.34	33.93±38.58	61.91±20.4	37.62±6.06	40.28±7.4	54.76±29.47	29.36±36.96	36.98±7.36
Moderately Dependent	32.4±19.06	53.85±46.01	70.46±16.78	36.62±7.65	40.54±8.85	75.48±26.43	47.44±44.94	37.05±7.49
Mildly Dependent	39.23±14.56	67.31±42.55	69.93±13.58	36.62±7.65	38.78±5.48	82.69±20.12	51.28±44.34	35.9±7.22
Totally Independent	39.17±18.25	81.94±35.15	70.2±2133	40.44±6.84	38.78±5.48	86.81±19.4	75.93±37.58	32.04±826
H	9.309	26.558	13.363	5.65	8.83	34.314	22.579	10.366
P	0.054	0.001**	0.01**	0.227	0.065	0.001**	0.001**	0.035**

* Mann Whitney U Test was used, $p<0.05$

** Kruskal Wallis H Test was used, $p<0.05$

Correlations Between the Mean Scores of Self-Efficacy Scale, Caregiver Burden Scale and SF-36 Quality of Life Scale

In present study, it was found that as the mean scores of beginning, maintain, completing, struggle with obstacles the behaviour of the caregivers was increased, the mean scores of SF-36 quality of life subdimensions were also increased ($p<0.05$ for all).

It was found that as the mean score of caregiver burden scale was increased, the mean scores of physical functioning, physical role limitation, body pain, general health, social functioning and emotional role limitation subdimensions were decreased ($p<0.05$ for all) (Table 6).

Table 6. *Correlations Between the Mean Scores of Self-EfficacyScale, Caregiver Burden Scale and SF-36 Quality of Life Scale (n=145)*

Subdimensions of Self-Efficacy Scale		**Subdimensions of SF-36 Quality of Life Scale**								**Caregiver Burden Scale**
		Physical function	Physical role limitation	Body pain	General health	Vitality	Social function	Emotional role limitation	Mental health	
Beginning to behaviour	r	0.486	0.482	0.499	0.361	-0.263	0.562	0.355	-0.412	-0.532
	p	0.01*	0.01*	0.01*	0.01*	0.01*	0.001*	0.01*	0.01*	0.01*
Maintain the behaviour	r	0.521	0.450	0.527	0.416	-0.289	0.431	0.339	-0.428	-0.514
	p	0.01*	0.01*	0.01*	0.01*	0.01*	0.001*	0.01*	0.01*	0.01*
Completing the behaviour	r	0.442	0.413	0.402	0.364	-0.156	0.330	0.329	-0.242	-0.394
	p	0.01*	0.01*	0.01*	0.01*	0.061	0.001*	0.01*	0.003 *	0.01*
Struggle with obstacles	r	0.393	0.374	0.350	0.356	-0.149	0.373	0.355	-0.288	-0.513
	p	0.01*	0.01*	0.01*	0.01*	0.074	0.001*	0.01*	0.01*	0.01*
Self-Efficacy Scale Total Score	r	0.535	0.498	0.534	0.415	-0.250	0.490	0.385	-0.412	-0.551
	p	0.01*	0.01*	0.01*	0.01*	0.002*	0.01*	0.01*	0.01*	0.01*
Caregiver Burden Scale	r	-0.544	-0.728	-0.516	-0.422	0.357	-0.722	-0.693	0.543	
	p	0.01*	0.01*	0.01*	0.01*	0.01*	0.01*	0.01*	0.01*	

DISCUSSION

This study was conducted to determine the relationship between self-efficacy, quality of life, and care burden of caregivers of Alzheimer's dementia patients. This study showed that there is a positive relationship between self-efficacy and quality of life in caregivers of patients with Alzheimer's dementia. In addition, a negative relationship was found between self-efficacy and caregiving burden.

In this study, it was found a statistically significant negative correlation between the mean of care burden and the mean of all subdimensions of quality of life in caregivers of Alzheimer's type dementia. In other words, these results show that physical, social, and psychological aspects of caregivers are negatively affected by the burden of disease. Similarly, studies conducted on caregivers of dementia patients have reported the physical and mental disorders in caregivers and their quality of life was negatively influenced (Martin-Carrasco et al., 2009; Andreakou et al., 2016). Also, studies evaluating care burden and its relationship with SF-36 in caregivers of elderly people have demonstrated that all subdimensions of quality of life are negatively affected by care burden, and particularly mental health subdimension is more affected (Martin-Carrasco et al., 2009; Abdollahpour et al., 2015; Du et al., 2017). A study by Serrano-Aguilar et al. (2006) showed a significant negative correlation between care burden and quality of life in caregivers of Alzheimer's patients (Serrano-Aguilar et al., 2006). Consistent with our findings, Srivastava et al. (2016) found a significant negative correlation between care burden and quality of life (Srivastava et al., 2016). The results of this study reveal the necessity of meeting the support needs by identifying the difficulties experienced by the caregivers of patients with dementia. In this context, it can be said that the interventions of nurses, who are an important member of the health team, will also be beneficial in increasing the quality of life of individuals.

In the present study, a statistically significant correlation was found between the mean of care burden score and the mean of all subdimension of self-efficacy scale (p<0.05). According to these results, self-efficacy level was lower in caregivers with a high care burden. Studies evaluating the relationship between self-efficacy level and care burden in caregivers of Alzheimer patients are limited, and in parallel to our study, these studies have demonstrated that care burden can negatively affect self-efficacy (Romero-Moreno et al., 2011; Zhang et al., 2014; Grano et al., 2017). In a study by Cheng et al. (2013); caregivers of Alzheimer patients with a high self-efficacy level had a lower care burden (Cheng et al., 2013). In addition, in a study by Grano et al. in 2017; it was reported that good self-efficacy in caregivers of Alzheimer patients can take negative thoughts under control, affect depressive symptoms, and decrease care burden (Grano et al., 2017). In a study by Gallagher et al. in 2011; it was stated that the majority of caregivers who give care to alzheimer patients had depressive symptoms, and a high self-efficacy levels can be effective in the management of depressive symptoms and reduction of caregiver burden (Gallagher et al., 2011). In line with the results of these studies, it can be said that it is important to plan interventions to increase the self-efficacy levels of caregivers of individuals with dementia. Nurses can contribute to reducing the burden of care for caregivers with dementia, by determining the factors affecting the self-efficacy of caregivers, by planning appropriate care for them, and by fulfilling their roles such as education, counseling and advocacy accordingly.

In the previous studies, it was indicated that high scores of self-efficacy scale of caregivers cause caregivers to exhibit positive health behaviour, affecting their quality of life positively (Au et al., 2000; Stuifbergen et al., 2000; Zhang et al., 2014). Consistent with previous studies, we found statistically significant positive correlations between the mean total and subdimension scores of self-efficacy scale, and the mean scores of quality of life subdimensions including physical functioning, physical role limitation, body pain, general health, social functioning, and emotional role limitation (p<0.05). It was thought that quality of life is positively influenced in caregivers who think positively to fulfill their work to protect themselves and give efficient care. In the literature, studies evaluating the relationship between self-efficacy level and quality of life in caregivers of dementia patients are scarce. In parallel to our study, in a study by Au et al. in 2010, caregivers of Alzheimer patients with high level of self-efficacy were reported to have better physical health, and they protected from stress by controlling negative thoughts (Au et al., 2010). In a study by Crellin et al. in 2014 on caregivers of dementia patients; caregivers with a good level of self-efficacy were found to have a better physical health and a better quality of life (Crellin et al., 2014). In addition, in a study by Zhang et al., a positive correlation was found between self-efficacy and quality of life in caregivers of dementia patients (Zhang et al., 2014). In the present study, caregivers with a high level of self-efficacy had a good quality of life, and low care burden. Similar to our study, in a study by Tay et al. in 2016 caregivers with a high level of self-efficacy were found to have a good quality of life and a low caregiver burden (Tay et al., 2016).

In our study, it was determined that as the dependence level of the patients increased, the burden of care increased. Similarly, Kang et al. and Unver et al. found that the more dependent patients with Alzheimer's Disease higher caregiver burden. According to the results of this study, it can be said that the increase in the self-efficacy and quality of life of caregivers, especially those whose patients are dependent, will affect the reduction of the care burden (Kang et al., 2014; Unver et al. 2016).

CONCLUSION AND SUGGESTIONS

In conclusion, self-efficacy of caregivers of Alzheimer patients was good, their quality of life was poor, and their care burden was high. In line with the results, it is suggested that quality of life could be increased and care burden could be reduced by increasing self-efficacy of caregivers.

LIMITATIONS

The results of this study are limited only to individuals who care for patients with Alzheimer's type dementia who applied to the neurology outpatient clinic of a state hospital and to the geriatrics outpatient clinic of a university hospital.

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Conflict of Interest

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Author Contributions

Design: A.U., Ü.P., Data collection or processing: A.U., Analysis or interpretation: A.U., Ü.P., Literature search: A.U., Ü.P., Writing: A.U., Ü.P.

REFERENCES

Abdollahpour, I., Nedjat, S., Salimi, Y. & Noroozian, M. (2015). Which variable is the strongest adjusted predictor of quality of life in caregivers of patients with dementia? *Psychogeriatrics*, *15*(1), 51-57. https://doi.org/10.1111/psyg.12094

Akyar, İ. & Akdemir, N. (2009). Alzheimer hastalarına bakım verenlerin yaşadıkları güçlükler. *Hacettepe Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Dergisi,* *16*(3), 32-49. https://dergipark.org.tr/en/download/article-file/88532

Andreakou, M. I., Papadopoulos, A. A., Panagiotakos, D. B. & Niakas, D. (2016). Assessment of health-related quality of life for caregivers of Alzheimer's disease patients. *International Journal of Alzheimer's Disease,* 9213968. https://doi.org/10.1155/2016/9213968

Au, A., Lau, K. M., Sit, E., Cheung, G., Lai, M. K., Wong, S. A. & Fok, D. (2010). The role of self-efficacy in the Alzheimer's family caregiver stress process: A partial mediator between physical health and depressive symptoms. *Clinical Gerontologists, 33*(4), 298-315. https://doi.org/10.1080/07317115.2010.502817

Buhse, M. (2008). Assessment of caregiver burden in families of persons with multiple sclerosis. *Journal of Neuroscience Nursing, 40*(1), 25-31. https://l24.im/YgwjlR

Canonici, A. P., Andrade, L. P. D., Gobbi, S., Santos-Galduroz, R. F., Gobbi, L. T. B. & Stella, F. (2012). Functional dependence and caregiver burden in Alzheimer's disease: A controlled trial on the benefits of motor intervention. *Psychogeriatrics, 12*(3), 186-192. https://doi.org/10.1111/j.1479-8301.2012.00407.x

Cheng, S. T., Lam, L. C., Kwok, T. & Siu Siu, Ng. N. (2013). Self-efficacy is associated with less burden and more gains from behavioral problems of Alzheimer's disease in Hong Kong Chinese caregivers. *Gerontologist, 53*(1), 71-80. https://doi.org/10.1093/geront/gns062

Crellin, N. E., Orrell, M., McDermott, O. & Charlesworth, G. (2014). Self-efficacy and health-related quality of life in family carers of people with dementia: A systematic review. *Aging & Mental Health, 18*(8), 954-969. https://doi.org/10.1080/13607863.2014.915921

Du, J., Shao, S., Jin G. H., Xu, W. & Lu, X. Q. (2017). Factors associated with health-related quality of life among family caregivers of disabled older adults: a cross-sectional study from Beijing. *Medicine (Baltimore), 96*(44), e8489. https://doi.org/10.1097/MD.0000000000008489

Ertekin, A., Demir, R., Özdemir, G., Özel, L., Özyıldırım, E. & Ulvi, H. (2015). An investigation of the risk factors and prevalence of Alzheimer's disease in the eastern region of Turkey: A population based door-to-door survey. *European Journal of General Medicine, 12*(2), 144-151. https://doi.org/10.15197/sabad.1.12.29

Gallagher, D., Ni Mhaolain, A., Crosbya, L. & Ryan, D. (2011). Self-efficacy for managing dementia may protect against burden and depression in Alzheimer's caregivers. *Aging Mental Health, 15*(6), 663-670. https://doi.org/10.1080/13607863.2011.562179

Gözüm, S. & Aksayan, S. (1999). Öz etkililik yeterlik ölçegi'nin Türkçe formunun güvenilirlik ve geçerliliği. Atatürk *Üniversitesi Hemşirelik Yüksekokulu Dergisi,* *2*(1), 21-34. https://dergipark.org.tr/en/download/article-file/29103

Grano, C., Lucidi, F. & Violani, C. (2017). The relationship between caregiving self-efficacy and depressive symptoms in family caregivers of patients with Alzheimer disease: A longitudinal study. *International Psychogeriatrics*, *29*(7), 1095-1103. https://doi.org/10.1017/S1041610217000059

Gündüz Saraç, H. F. (2020). Alzheimer hastalarının fonksiyonel kapasitesinin ve bakım verenin duygusal zekâ düzeyinin bakım verme yükü ile ilişkisi [Yüksek Lisans Tezi, Pamukkale Üniversitesi Sağlık Bilimleri Enstitüsü]. https://l24.im/u0FtPm

İnci, F. H. & Erdem, M. (2008). Bakım verme yükü ölçeği'nin Türkçe'ye uyarlanması geçerlik ve güvenirliği. *Atatürk Üniversitesi Hemşirelik Yüksekokul Dergisi,* *11*(4), 85-95. https://dergipark.org.tr/en/download/article-file/29438

Kang, H. S., Myung, W., Na, D. L., Kim, S. Y., Lee, J. H., Han, S. H., Choi, S. H., Kim, S. Y., Kim, S. & Kim, D. K. (2014). Factors associated with caregiver burden in patients with Alzheimer's disease. *Psychiatry Investigation*, *11*(2), 152-159. https://doi.org/10.4306/pi.2014.11.2.152

Koçyiğit, H., Aydemir, Ö., Fişek, G. & Ölmez, N. (1999). Kısa Form-36 (SF-36)'nın Türkçe versiyonunun güvenilirliği ve geçerliliği. *İlaç ve Tedavi Dergisi, 12*(2), 102-106.

Küçükdeveci, A. A., Yavuzer, G., Tennant, A. & Süldür, N. (2000). Adaptation of the modified Barthel Index for use in physical medicine and rehabilitation in Turkey. *Sandinavian Journal of Rehabilitation Medicine 32*(2), 87-92. https://europepmc.org/article/med/10853723

Landeiro, F., Walsh, K., Ghinai, I., Mughal, S., Nye, E., Wace, H., Roberts N., Lecomte, P., Wittenberg, R., Wolstenholme, J., Handels, R., Roncancio-Diaz, E., Potashman, M. H., Tockhorn-Heidenreich, A., & Gray, A. M. (2018). Measuring quality of life of people with predementia and dementia and their caregivers: A systematic review protocol. *BMJ Open*, *8*(3): e019082. https://doi.org/10.1136/bmjopen-2017-019082.

Mahoney, K. & Barthel, M. (1965). Functional evaluation: the Barthel Index. *Maryland State Medical Journal, 14*(2), 56-6. https://stopstroke.massgeneral.org/pdfs/barthel_reprint.pdf

Martin-Carrasco, M., Martin, M. F., Valero, C. P., Vazquez, ALG. & Vilanova, M. B. (2009). Effectiveness of a psychoeducational intervention program in the reduction of caregiver burden in Alzheimer's disease patients' caregivers. *International Journal of Geriatric Psychiatry*, *24*(5), 489-499. https://doi.org/10.1002/gps.2142

Özer, S. (2010). Demanslı hasta ve bakım verenlerin yaşam kalitesi. *Türk Geriatri Dergisi, 13*(3), 27-35. http://geriatri.dergisi.org/uploads/pdf/pdf_TJG_511.pdf

Romero-Moreno, R., Losada, A., Mausbach, BT. & Márquez-González, M. (2011). Analysis of the moderating effect of self-efficacy domains in different points of the dementia caregiving process. *Aging Ment Health, 15*(2), 221-231. https://doi.org/10.1080/13607863.2010.505231

Semiatin, A. M. & O'Connor, M. K. (2012). The relationship between self-efficacy and positive aspects of caregiving in Alzheimer's disease caregivers. *Aging Mental Health*, *16*, 683-688. https://doi.org/10.1080/13607863.2011.651437

Serrano-Aguilar, P. G., Lopez-Bastida, J. & Yanes-Lopez, V. (2006). Impact on health-related quality of life and perceived burden of informal caregivers of individuals with Alzheimer's disease. *Neuroepidemiology*, *27*(3), 136-142. https://doi.org/10.1159/000095760

Sherer, M. & Maddux, J. (1982). The self efficacy self-efficacyscale: construction and validation. *Psychological Reports*, *51*(2), 663-671. https://doi.org/10.2466/pr0.1982.51.2.663

Srivastava, G., Tripathi, R. K., Tiwari, S. C., Singh, B. & Tripathi, S. M. (2016). Caregiver burden and quality of life of key caregivers of patients with dementia. *Indian Journal of Psychological Medicine, 38*(2), 133-136. https://doi.org/10.4103/0253-7176.178779

Stuifbergen, A. K., Seraphine, A. & Roberts, G. (2000). An explanotory model of health promotion and quality of life in chronic disabling conditions. *Nursing Research*, *49*(3), 122-129. https://l24.im/Ia

Şahiner, T. (2012). Alzheimer hastalığında bakım veren yaşam kalitesi ve sorunları. *Türkiye Klinikleri Journal of Neurology Special Topics*, *5*(3), 91-93. https://www.turkiyeklinikleri.com/article/en-alzheimer-hastaliginda-bakimveren-yasam-kalitesi-ve-sorunlari-63946.html

Tay, K. C., Seow, C. C., Xiao, C., Lee, H. M., Chiu, H. F. & Cihan, S. W. (2016). Structured interviews examining the burden, coping, self-efficacy and quality of life among family caregivers of persons with dementia in Singapore. *Dementia*, *15*(2), 204-220. https://pubmed.ncbi.nlm.nih.gov/24535819/

Republic of Turkey Ministry of Health General Directorate of Health Information Systems (2021). Health statistics yearbook 2019. https://sbsgm.saglik.gov.tr/Eklenti/40564/0/saglik-istatistikleri-yilligi-2019pdf.pdf

Unver, V., Basak, T., Tosun, N., Aslan, O. & Akbayrak, N. (2016). Care burden and self-efficacy levels of family caregivers of elderly people in Turkey. *Holistic Nursing Practice*, *30*(3), 166-173. https://doi.org/10.1097/HNP.0000000000000148

Ware, J. E. & Sherbourne, C. D. (1992). The MOS 36-item short form health survey (SF-36). I: conceptual framework and item selection. *Medical Care*, *30*(6), 473-483. https://pubmed.ncbi.nlm.nih.gov/1593914/

World Health Organization (2021). Dementia. https://www.who.int/news-room/fact-sheets/detail/dementia

Zarit, S. H., Reever, K. E. & Bach-Peterson, J. (1980). Relatives of the impaired elderly: Correlates of feelings of burden. *Gerontologist*, *20*(6), 649-655. https://doi.org/10.1093/geront/20.6.649

Zhang, S., Edwards, H., Yates, P., & Li, C. (2014). Self-efficacy partially mediates between social support and health-related quality of life in family caregivers for dementia patients in Shanghai. *Dementia and Geriatric Cognitive Disorders*, *37*(1-2), 34-44. https://doi.org/10.1159/000351865