



ISSN: 2651-4451 • e-ISSN: 2651-446X

Türk Fizyoterapi ve Rehabilitasyon Dergisi

2019 30(1)69-80

Güler DURU AŞİRET, PhD, RN¹
Gülcan BACIVAN, PhD, RN²
Cemile KUTMEÇ YILMAZ, PhD, RN¹

- 1 Aksaray University, Faculty of Health Sciences, Department of Nursing, Aksaray, Turkey.
- 2 Gulhane Training and Research Hospital, Ankara, Turkey.

İletişim (Correspondence):

Güler DURU AŞİRET, PhD, RN
Aksaray University, Faculty of Health Sciences,
Department of Nursing, 68100 Aksaray, Turkey.
Phone:+90-382-2882768
E-mail: gulerduru@gmail.com
ORCID ID: 0000-0002-9635-1539

Gulcan BACIVAN
E-mail: gulcan_408@hotmail.com
ORCID ID: 0000-0003-0509-2568

Cemile KUTMEÇ YILMAZ
E-mail: cemilekutmec@yahoo.com
ORCID ID: 0000-0003-1827-5187

Geliş Tarihi: 17.04.2018 (Received)
Kabul Tarihi: 10.08.2018 (Accepted)

THE TURKISH VERSION OF THE CARER'S ASSESSMENT OF SATISFACTION INDEX (CASI-TR): ITS VALIDATION AND RELIABILITY

ORIGINAL ARTICLE

ABSTRACT

Purpose: Caregivers of patients with chronic diseases could experience positive as well as negative feelings as a result of caregiving. Although there are assessment tools in the literature that are used to measure the satisfaction received from caregiving, which is one of the positive feelings experienced by caregivers, there was no tool that assessed caregiver satisfaction in Turkey. This study aimed to evaluate the reliability and validity of the Turkish version of the Carer's Assessment of Satisfaction Index (CASI).

Methods: The sample included 300 caregivers. Data were collected using a demographic questionnaire and the CASI. The Cronbach's alpha value was calculated and a corrected item-total correlation and a test-retest reliability analysis were performed for reliability. Descriptive factor analyses were used to evaluate the construct validity. The forward and back-translation method was used for the linguistic validity. The retest was performed with 60 caregiving individuals.

Results: The caregivers' mean age was 49.23±13.71 years, and 76.7% were females. Their duration of caregiving was 51.99±6.33 months. The Cronbach's alpha value calculated for the CASI was 0.949. Factor analysis revealed that three factors accounted for 57.67% of the total variance, with an Eigenvalue above 1.

Conclusion: The Turkish version of CASI is found to be reliable and valid for assessing caregiver satisfaction. We find the CASI to be a useful tool that could be utilized readily by all healthcare personnel to assess caregiver satisfaction.

Key Words: Caregiver; Reliability; Satisfaction; Validity.

BAKIM VERENLERİN MEMNUNİYETİ DEĞERLENDİRME İNDEKSİ'NİN TÜRKÇE VERSİYONUNUN: GEÇERLİK VE GÜVENİRLİĞİ

ARAŞTIRMA MAKALESİ

ÖZ

Amaç: Kronik hastalığa sahip bireye bakım veren bireyler, bakım vermeleri nedeni ile olumsuz duyguların yanı sıra olumlu duygular da yaşayabilmektedir. Literatürde bakım verenlerin yaşadığı olumlu duygulardan biri olan bakım vermeden alınan doyum ölçmek amacıyla kullanılan ölçüm araçları olmasına rağmen, ülkemizde bakım verenlerin memnuniyetini değerlendiren bir ölçüm aracına rastlanmadı. Bu çalışmanın amacı Bakım Verenlerin Memnuniyeti Değerlendirme İndeksi'nin (BMDİ) ülkemiz için geçerlik ve güvenilirliğinin değerlendirilmesiydi.

Yöntem: Bu çalışma 300 bakım veren birey ile yürütüldü. Araştırmanın verileri, veri toplama formu ve BMDİ kullanılarak toplandı. Güvenirlilik analizleri için Cronbach alfa değeri hesaplandı ve düzeltilmiş madde-toplam korelasyon ve test-tekrar test güvenirlilik analizi yapıldı. Yapı geçerliğini değerlendirmek için tanımlayıcı faktör analizi yapıldı. Dil geçerliği için ileri ve geri çeviri yöntemi kullanıldı. Tekrar test 60 bakım veren birey ile yapıldı.

Sonuçlar: Bakım veren bireylerin yaş ortalamasının 49,23±13,71 yıl ve % 76,7'sinin kadın olduğu belirlendi. Bakım verenlerin bakım verme süresinin 51,99±6,33 ay olduğu saptandı. BMDİ için hesaplanan iç tutarlılık kat sayısı (Cronbach alfa) 0,949'du. Faktör analizi sonuçları BMDİ için Öz Değeri 1'in üzerinde olan toplam varyansın % 57,67'sini açıklayan üç alt boyut ortaya koydu.

Tartışma: BMDİ Türkçe versiyonu bakım verenlerin doyumunu değerlendirmede geçerli ve güvenilir bulunmuştur. Tüm sağlık personelinin bakım verenlerde memnuniyeti değerlendirebilmeleri açısından faydalı bir araç olduğu ve kolaylıkla kullanılabilceği düşünülmektedir.

Anahtar Kelimeler: Bakım Veren; Güvenirlilik; Geçerlik; Memnuniyet.

INTRODUCTION

Chronic diseases have an increasing prevalence throughout the world due to the extended life expectancy. With this increase, the care of patients with chronic diseases is emerging as a problem, based on the duration of such diseases and the severity of symptoms, since this group's needs for care do not lessen over time. On the contrary, their needs generally continue and often increase. As a result, caregivers must adapt to new roles in order to meet those needs, and they may be affected by the care they provide, depending on its duration and the increased needs of those for whom they care (1,2).

Most of the studies in the literature on caregivers focus on the negative aspects of caregiving, such as the caregiving burden (1,2), depression (3,4), anxiety (5), a decrease in quality of life (4), and physical health impairments (6). However, some studies emphasize that caregiving may also have positive effects on caregivers (7,8). Hanyok et al. found that caregiving had both positive and negative aspects and that caregivers may experience positive and negative effects at the same time (9). The literature also reported that the positive effects on caregivers include a feeling of satisfaction, personal development, gaining caregiving experience, being able to use their experience, and a decrease in stress and depressive symptoms (10,11). Cohen et al. found that the majority of caregivers (73%) could identify at least one specific positive aspect of caregiving (12). Balducci et al. and McKee et al. reported that a good relationship between caregivers and care recipients affected caregivers in a positive manner (7,13). The literature also reported that having no negativity in the caregiving process affected caregiver satisfaction (14). Moreover, caregivers' satisfaction from the caregiving experience increased in cases where there was a good relationship between the caregiver and the care recipient, and when the caregiver volunteered for caregiving, had spare time, managed to control his/her feelings, or did not have wage-earning employment (14). Kuuppelomäki et al. found that the sources of satisfaction among caregivers were mainly related to care recipients: caregivers derived the most satisfaction from seeing that they could

keep the care recipient clean and comfortable and that their care ensured good outcomes (10).

In the literature, caregiver satisfaction is measured by tools such as the Care Work Satisfaction Scale (15), the Carer Satisfaction Scale (16), and the Carer's Assessment of Satisfaction Index (CASI) (17). As such, while there are standard measurement tools for determining caregivers' care-related stress and burden in Turkey, there is, at present, no tool for assessing the positive effects of caregiving. In fact, we did not find any study that assessed the positive effects of caregiving on the caregiver. However, various studies in Turkey examined variables such as the caregiver's quality of life, life satisfaction, care burden, stress, depression, and anxiety. One study that assessed caregiver satisfaction found that this varied depending on the country and culture of the caregiver (13). Therefore, our study aimed to test the validity and reliability of the Turkish version of the CASI, which assesses caregivers from many perspectives, is not specific to any disease, is short and understandable, and is valid and reliable for many countries.

METHODS

This study was aimed to test the validity and reliability of the Turkish version of the CASI. The study was conducted between June 2016 and September 2017 at Aksaray University Training and Research Hospital with the caregiving family members of inpatients with chronic diseases. For calculating the study sample, "item number: observation number ratios" were used to calculate the sample range, which is used in studies for developing scales. For this study, the sample size was calculated as at least 10 individuals for each item (item number $30 \times 10 = 300$) (18). The study sample included 300 caregiving family members who had provided the primary care for at least three months to a patient (who had at least one chronic disease and received inpatient treatment in general internal medicine and palliative care units). We identified a caregiving duration of a minimum of three months, considering that it is essential to have caregivers who are experienced enough to express both the positive and negative feelings they experienced (19). The caregivers who consented to

participate in the study were 18 years old and older and had no communicative difficulties or mental deficiencies. Caregivers who had any mental or psychological diagnoses were not included in our study. We did not assess the caregivers' cognitive and psychological states with any measurement tools. Participants' verbal statements were taken as the basis for assessment. To evaluate test-retest reliability, the CASI was re-administered to 60 caregivers to patients who continued to be hospitalized in wards two weeks after the first application.

In order to test the Turkish adaption of the CASI, we first received approval from the authors who developed the index. We conducted the study in compliance with the principles of the Helsinki Declaration. Written approvals were received from the Aksaray University Human Studies Ethics Council (2016/13) and the institution where the study was conducted. Written informed consent was obtained from all study participants.

The study used an introductory information form that included 25 questions in line with the literature. There were seven questions on patients' sociodemographic and medical information (age, gender, education, marital status, chronic diseases, regular medications, existing problems); 10 questions on caregivers' sociodemographic and medical information (age, gender, education, marital status, whether having children, employment, diseases, and medications); and eight questions on caregiving conditions (affinity to the patient, caregiving duration, caregiving period in a day, caregiving location, tasks included in caregiving, presence of assisting people in caregiving, difficulties within the family due to caregiving, and whether caregiving affects daily life).

We collected the data through individual, face-to-face interviews with the caregivers who met the study criteria. Interviews took place in wards and took 10-15 minutes. We did not encounter any problems during the data collection.

Carer's Assessment of Satisfaction Index

The CASI was developed by Nolan and Grant, and is used for assessing caregiver satisfaction (20). It comprises three subscales and 30 questions,

as follows: 12 questions assessing caregiver satisfaction related to the care recipient (2, 4, 5, 8, 9, 12, 13, 18, 19, 20, 22, and 24); 14 questions assessing caregiver satisfaction related to the caregiver himself or herself (1, 6, 7, 10, 11, 14, 15, 16, 23, 25, 26, 27, 28, and 30), and four questions assessing the dynamics of interpersonal relations (3, 17, 21, and 29). The replies to the questions are indicated by a three-point Likert-type scale, as follows: "This does not apply in my situation or no satisfaction (0)", "quite a lot of satisfaction (1)," and "a great deal of satisfaction (2)". Index scores are summarized in percentages, and there is no information on cut-off points (10,17). The responses to each item are added together to find the total scale score. There was no cut-point in score interpretation, and a higher total score indicates higher caregiver satisfaction (10,21).

The back-translation method was used for the linguistic validity of the CASI (22). Six experts conducted the Turkish translation of the CASI. Two experts were English philologists, and four were academicians in nursing science. The authors developed a single Turkish text using the translations provided by the experts. The text was translated back into English, and then an expert who was a native speaker of English compared it to the original text and assessed whether there was a semantic shift in statements. Opinions were received from 10 experts in the field in order to assess the final text's lucidity. We reviewed the 10 experts' suggestions, made the necessary correction in the index, and finalized the scale. As a preliminary application to assess its surface validity, the index was administered to 20 caregivers who provided their opinions on its lucidity. The caregivers included in this preliminary application were excluded from the study sample.

After applying the CASI-TR to the large sample group, the resulting data were analyzed to assess its validity and reliability.

Statistical Analysis

The outcomes were expressed as numbers and percentages for the numerical variables, and as mean±standard deviation (SD) for the measurement variables. The Cronbach's alpha value was calculated and a corrected item-total correlation, test-retest

Table 1: Descriptive Characteristics of Caregivers.

Characteristics	n	%
Sex		
Female	230	76.7
Male	70	23.3
Age		
≤65 years	268	89.3
≥66 years	32	10.7
Education		
Illiterate	60	20.0
Literate	26	8.6
Primary School	131	43.7
Secondary School and over	83	27.7
Marital Status		
Married	261	87.0
Single	39	13.0
Employment Status		
Employed Full-Time/Part-Time	42	14.0
Never Worked	258	86.0
Perceived Economic Condition (Self-assessment)		
Income and expenses are in balance	181	60.3
Income and expenses are not in balance	119	39.7
Chronic disease		
Yes	144	48.0
No	156	52.0
Relationship with Care Receiver		
Husband / Wife	95	31.7
Daughter / Son	140	46.7
Mother / Father	2	0.6
Daughter in Law	37	12.3
Others	26	8.7
Place of Care		
Patient's House	229	76.3
Home of Caregiver	71	23.7
Duration of Caregiving (months)		
3-12	109	36.3
13-48	95	31.7
>49	96	32.0
Caregiving Tasks*		
Patient's Personal Hygiene	274	91.3
Patient's Feeding	247	82.3
Help for Activity	212	70.7
Help for Elimination	148	49.3
Administering Medications	222	74.0
Help with Finances	164	54.7
Another Helper for Patient Care		
Yes	164	54.7
No	136	45.3
Strain in Care		
Yes	165	55.0
No	135	45.0
Influencing Daily Life		
Yes	181	60.3
No	119	39.7

* Individuals responded more than once.

reliability analysis performed for the reliability analyses. The Intraclass Correlation Coefficient (ICC) was calculated for test-retest reliability. Descriptive factor analyses were used to evaluate

the construct validity. Mann-Whitney u Test and Kruskal Wallis Test were performed to compare caregivers' sociodemographic features and CASI-TR score. The SPSS package program for Windows

Ver. 15.00 (SPSS Inc. Chicago, IL, USA) was used in the statistical analysis of the data. A p value of <0.05 was considered statistically significant.

RESULTS

Table 1 indicates the sociodemographic features of the caregivers who participated in the study. Of those caregivers, 76.7% were females, 86.3% were 65 years old, or younger, 43.7% were primary school graduates, 87% were married, 86% were not working, 66.3% were housewives, and 60.3% defined their income status as having an income covering one's expenses. Almost half (48%) of caregivers had no chronic diseases, and the most common diseases among caregivers were hypertension ($n=80$), diabetes mellitus ($n=57$), and heart failure ($n=17$). Among them, 46.7% provided care for their children, and 76.3% provided the care at the patient's home. Caregivers' duration of caregiving was 51.99 ± 6.33 (min=3, max=312) months.

The care provided by the majority of caregivers included assistance with personal hygiene, meals, and mobility. Of the caregivers, 54.7% reported that at least one person assisted with the caregiving; 55% reported having difficulty with some aspects of caregiving; and 60.3% reported that caregiving affected their daily lives.

Regarding the care recipients, the mean age was 71.38 ± 1.37 years, 56.7% were females, 51.3% were illiterate, and 72.3% were married. The most common diseases among care recipients were hypertension ($n=177$), diabetes mellitus ($n=124$), heart failure ($n=112$), chronic obstructive pulmonary disease ($n=83$), and stroke ($n=55$). Care recipients often experienced problems, and thereby a need for assistance, with mobility, sleep, balance, eating, and urinary incontinence.

Reliability of the CASI-TR

The internal consistency (Cronbach's alpha) value was calculated for all index items and subscales for reliability analysis. The internal consistency coefficient calculated for CASI-TR (Cronbach's alpha) was $\alpha=0.949$. Internal consistency coefficients calculated for the subscales were $\alpha=0.922$ for the subscale "caregiver satisfaction related to care recipient," $\alpha=0.875$ for the subscale

"caregiver satisfaction related to themselves," and $\alpha=0.723$ for the subscale "dynamics of interpersonal relations."

According to the correlation analysis of the total item scores, no item increased the internal consistency coefficient of the scale when excluded from the index. Correlation coefficients between the item scores and total score were between 0.382 and 0.809 (Table 2). Our study calculated the ICC value to assess CASI's test-retest reliability. In this study, the total CASI-TR score for the first application was 82.76 ± 8.88 , and the retest score was 82.54 ± 9.30 . The ICC calculated for test-retest reliability was $ICC=0.742$.

The Validity of the CASI-TR

According to the factor analysis performed to assess construct validity, there were three subscales, for which the Eigenvalues were above 1, similar to the original scale, and which accounted for 57.67% of the total variance. However, subscales including several items were different in our outcomes. When the items in subscales were assessed regarding meaning, we saw that the items came together meaningfully. The factor load of the items was between 0.311 and 0.874. The naming of subscales was consistent with the original scale. The first subscale, "caregiver satisfaction related to care recipient," had 11 items (items 2, 4, 5, 8, 9, 10, 11, 12, 13, 14, and 16). The second subscale, "caregiver satisfaction related to themselves," had 12 items (items 3, 17, 18, 19, 20, 21, 22, 24, 25, 26, 28, 29, and 30). The third subscale, "dynamics of interpersonal relations," had six items (items 1, 6, 7, 15, 23, and 27) (Table 3).

Table 4 indicates the distribution of the replies to the items on the CASI-TR. The items with the highest levels of satisfaction were as follows: "It's nice when something I do gives the person I care for pleasure" (93.1%), "It's nice to see the person I care for clean, comfortable, and well turned out" (93%), "It's nice to feel appreciated by those family and friends I value" (92.9%), "Caring is one way of expressing my love for the person I care for" (92.6%), and "I get pleasure from seeing the person I care for happy" (92.2%).

Our study found that the mean total score of the

Table 2: The Results of the Item Analysis.

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Caring has allowed me to develop new skills and abilities.	82.164	68.138	0.618	0.948
The person I care for is appreciative of what I do	82.128	67.580	0.706	0.947
Caring has brought me closer to the person I care for.	82.128	67.552	0.710	0.947
It's good to use small improvements in the person I care for.	82.071	67.851	0.785	0.946
I am able to help the person I care for reach their full potential.	82.100	67.127	0.809	0.946
I am able to repay the kindness of the person I care for.	82.300	67.938	0.496	0.949
Caring provides a challenging and stimulating job.	82.221	66.634	0.703	0.947
Despite all the problems, the person I care for doesn't grumble or moan.	82.357	67.613	0.497	0.950
It's nice to see the person I care for clean, comfortable and well turned out.	82.085	67.575	0.767	0.946
Caring has enabled me to fulfil my sense of duty.	82.064	68.276	0.771	0.946
I'm the sort of person who enjoys helping people.	82.085	68.899	0.629	0.947
I get pleasure from seeing the person I care for happy.	82.078	68.620	0.723	0.947
Knowing the person I care for the way I do means I can give better care than anyone else.	82.178	67.759	0.634	0.947
It helps to stop me from feeling guilty.	82.150	67.740	0.640	0.947
Caring has made me a better, less selfish person.	82.250	67.829	0.499	0.949
It's nice to feel appreciated by those family and friends I value.	82.042	69.106	0.727	0.947
Caring has strengthened close family ties and relationships.	82.142	67.922	0.645	0.947
It's good to help the person I care for overcome difficulties and problems.	82.071	68.801	0.708	0.947
It's nice when something I do gives the person I care for pleasure.	82.071	68.700	0.686	0.947
I am able to keep the person I care for out of an institution.	82.100	69.026	0.562	0.948
I feel that if the situation were reversed the person I care for would do the same for me.	82.200	68.650	0.493	0.949
I am able to ensure the person I care for is well fed and their needs tended to.	82.085	68.784	0.647	0.947
Caring has given me the chance to widen my interest and contacts.	82.178	68.594	0.469	0.949
Maintaining the dignity of the person I care for is important to me.	82.057	69.234	0.712	0.947
I am able to test myself out and overcome difficulties.	82.071	69.275	0.667	0.947
Caring is one way of showing my faith.	82.021	70.021	0.673	0.948
Caring has provided a purpose in life that I didn't have before.	82.157	69.270	0.442	0.949
At the end of the day I know I'll have done the best I could.	82.100	70.019	0.401	0.949
Caring is one way of expressing my love for the person I care for.	82.021	70.021	0.673	0.948
Caring makes me feel needed and wanted.	82.071	70.455	0.382	0.949

CASI-TR was 80.89 ± 11.16 (min=17, max=90). While not indicated in the table, a comparison of caregivers' sociodemographic features and their CASI-TR scores indicated that caregivers' CASI-TR scores had a statistically significant difference only for education and caregiving difficulty ($p < 0.05$), and there was no statistically significant difference according to other factors ($p > 0.05$). Those with educational status of being literate only ($p < 0.05$) and those who expressed having no difficulty in caregiving ($p = 0.027$) had significantly higher CASI-TR scores compared to others.

DISCUSSION

In this study, we tested the validity and reliability of the CASI-TR, which is a measurement tool that can be used for assessing the positive aspects of caregiving for caregivers in Turkey. The findings of this study indicated that the CASI-TR is a valid and reliable assessment tool evaluate caregiver satisfaction in Turkey.

Based on factor analysis, this study revealed three subscales, for which the Eigenvalues were above 1, similar to the original scale, and that accounted for 57.67% of the total variance. The naming of subscales was consistent with the original scale. Similar to the outcome of the study, Kuuppelomäki et al. found three subscales in the factor analysis that aimed to identify the sources of satisfaction for caregivers in Finland (10). Different from the three-factor construct of the CASI, Ekwall and Hallberg reported a five-factor construct that accounted for 62% of the total variance, and McKee et al. reported a five-factor construct that accounted for 61.4% of the total variance (23,24). While the number of factors in this study was similar to the original CASI, the distribution of items under factors differed. However, the items forming subscales came together in a significant manner. This difference in the CASI-TR subscale items can be associated with health service delivery, social support systems, cultural and religious differences, and economic differences (25).

In this study, the ICC calculated for test-retest reliability was 0.742, indicating the CASI-TR's consistency over time (26). The responses received for the first and the second applications of CASI-TR were similar, which indicated that it is a reliable

assessment tool.

The confirmatory factor analysis, which is used to test the relationship between factors, whether the factors are independent of each other, and whether they explain the scale sufficiently (27), suggests that the factor load of the items is 0.30 and above (28). In our study, the results of confirmatory factor analysis indicated that the factor loads (0.311-0.874) were similar to those for the studies of Ekwall and Hallberg (0.33-0.82) and McKee et al. (0.34-0.84), and had a reasonable level of CASI-TR compliance (23,24). We calculated the Cronbach's alpha reliability coefficient in order to test whether the items were consistent with one another and to what extent the CASI-TR measured the intended feature. For internal consistency assessment, the Cronbach's alpha reliability coefficient should be at least $\alpha = 0.70$ (29). In our study, the Cronbach's alpha value calculated for all items of the CASI-TR was $\alpha = 0.94$. Cronbach's alpha values varied $\alpha = 0.72-0.92$ for the subscales. In the study by Kuuppelomäki et al., the internal consistency coefficient was $\alpha = 0.94$ for all CASI items and $\alpha = 0.75-0.88$ for the subscales (10). Similarly, in the study by Ekwall and Hallberg, Cronbach's alpha value was 0.81 for all CASI items and $\alpha = 0.76-0.83$ for the subscales (23). The results of our study were similar to the results of other studies, and indicated that the CASI-TR is a reliable measurement tool for assessing caregiver satisfaction for the sample in this study.

The item-total correlation analysis, which is another method used for testing the reliability of a measurement tool, is one of the methods used for identifying whether the scale items measure a particular feature (30). Our study found that the correlation coefficients between item scores and total score were between 0.382 and 0.809. The literature reports that items with a total correlation value of 0.40 and above are very distinct, those with a value between 0.30 and 0.40 are good, and those with a value between 0.20 and 0.30 require correction (31). The results of our study concerning item-total scores indicated that the items in the CASI-TR were adequate and sufficient for assessing caregiver satisfaction.

The literature reports that caregiving may have not only harmful but also positive effects on

Table 3: Result of Exploratory Factor Analysis Showing the Internal Structure of Carer's Assessment of Satisfaction Index (CASI-TR).

Items	Factor 1	Factor 2	Factor 3
Item 2	0.486		
Item 4	0.544		
Item 5	0.774		
Item 8	0.448		
Item 9	0.731		
Item 10	0.783		
Item 11	0.856		
Item 12	0.874		
Item 13	0.602		
Item 14	0.724		
Item 16	0.568		
Item 3		0.584	
Item 17		0.689	
Item 18		0.719	
Item 19		0.599	
Item 20		0.746	
Item 21		0.494	
Item 22		0.608	
Item 23		0.588	
Item 25		0.594	
Item 26		0.714	
Item 28		0.509	
Item 29		0.539	
Item 30		0.369	
Item 1			0.311
Item 6			0.328
Item 7			0.469
Item 15			0.660
Item 23			0.779
Item 27			0.714
Eigenvalue	13.498	2.266	1.538
Percentage of Variance Explained (%)	44.995	7.555	5.128
Accumulative Percentage of Variance Explained (%)	44.995	52.548	57.676
Cronbach's Alpha	0.922	0.875	0.723

Table 4: Distribution of Responses to Carer's Assessment of Satisfaction Index (CASI-TR).

Items	This does not tend to apply in my situation	This applies to me		
	n (%)	0: No Real Satisfaction n (%)	1: Quite a Lot of Satisfaction n (%)	2: A Great Deal of Satisfaction n (%)
Caring has allowed me to develop new skills and abilities.	20 (6.7)	8 (2.9)	28 (10.0)	244 (87.1)
The person I care for is appreciative of what I do	45 (15.0)	15 (5.9)	23 (9.0)	217 (85.1)
Caring has brought me closer to the person I care for.	16 (5.3)	12 (4.2)	23 (8.1)	249 (87.7)
It's good to use small improvements in the person I care for.	4 (1.3)	10 (3.4)	14 (4.7)	272 (91.9)
I am able to help the person I care for reach their full potential.	8 (2.7)	7 (2.4)	24 (8.2)	261 (89.4)
I am able to repay the kindness of the person I care for.	12 (4.0)	14 (4.9)	49 (17.0)	225 (78.1)
Caring provides a challenging and stimulating job.	16 (5.3)	18 (6.3)	41 (14.4)	225 (79.2)
Despite all the problems, the person I care for doesn't grumble or moan.	22 (7.7)	21 (7.3)	55 (18.3)	202 (72.7)
It's nice to see the person I care for clean, comfortable and well turned out.	2 (0.7)	8 (2.7)	13 (4.4)	277 (93.0)
Caring has enabled me to fulfill my sense of duty.	6 (2.0)	7 (2.4)	19 (6.5)	268 (91.2)
I'm the sort of person who enjoys helping people.	-	8 (2.7)	22 (7.3)	270 (90.0)
I get pleasure from seeing the person I care for happy.	4 (1.3)	3 (1.0)	20 (6.7)	273 (92.2)
Knowing the person I care for the way I do means I can give better care than anyone else.	44 (14.7)	9 (3.0)	51 (17.0)	196 (65.3)
It helps to stop me from feeling guilty.	60 (20.0)	10 (4.2)	33 (13.8)	197 (82.1)
Caring has made me a better, less selfish person.	41 (13.7)	30 (11.6)	37 (14.3)	192 (74.1)
It's nice to feel appreciated by those family and friends I value.	6 (2.0)	5 (1.7)	16 (5.4)	273 (92.9)
Caring has strengthened close family ties and relationships.	18 (6.0)	10 (3.5)	23 (8.2)	249 (88.3)
It's good to help the person I care for overcome difficulties and problems.	5 (1.7)	4 (1.4)	19(6.4)	272 (92.2)
It's nice when something I do gives the person I care for pleasure.	9 (3.0)	4 (1.4)	16 (5.5)	271 (93.1)
I am able to keep the person I care for out of an institution.	12 (4.0)	8 (2.8)	23 (8.0)	257 (89.2)
I feel that if the situation were reversed the person I care for would do the same for me.	46 (15.3)	13 (5.1)	34 (13.3)	207 (81.2)
I am able to ensure the person I care for is well fed and their needs tended to.	1 (0.3)	11 (3.7)	20 (7.7)	268 (89.6)
Caring has given me the chance to widen my interest and contacts.	14 (4.7)	14 (4.9)	26 (9.1)	246 (86.0)
Maintaining the dignity of the person I care for is important to me.	2 (0.7)	2 (0.7)	22 (7.4)	274 (91.9)
I am able to test myself out and overcome difficulties.	3 (1.0)	5 (1.7)	32 (10.8)	260 (87.5)
Caring is one way of showing my faith.	8 (2.7)	5 (1.7)	20 (6.8)	267 (91.4)
Caring has provided a purpose in life that I didn't have before.	27 (9.0)	10 (3.7)	32 (11.7)	231 (84.6)
At the end of the day I know I'll have done the best I could.	3 (1.0)	9 (3.0)	26 (8.7)	262 (88.3)
Caring is one way of expressing my love for the person I care for.	3 (1.0)	6 (2.0)	16 (5.4)	275 (92.6)
Caring makes me feel needed and wanted.	2 (0.7)	8 (2.7)	16 (5.4)	274 (91.9)

caregivers (9–11,14). The study by Kuuppelomäki et al. found that caregiver satisfaction is affected by the positive changes in patients as a result of the care they are given (10). In addition, caregivers' sources of satisfaction includes the feeling of being needed and wanted during the caregiving process (10). Similarly, we found that caregivers' sources of satisfaction included the following: works performed by caregivers give pleasure to the care recipient, the care recipient is clean, comfortable, and well turned out, family and friends appreciate the caregiver, the caregiver can express his/her love for the care recipient, and the care recipient is happy. Related to human nature, factors such as feelings of being admired for one's work, being appreciated for one's work, recognizing that one is needed, and experiencing spiritual satisfaction for one's work can be the primary sources of motivation for caregivers to continue to provide care.

This study found that the level of caregiver satisfaction was good. Studies in the literature comparing caregiver satisfaction and their sociodemographic features reported that caregivers' marital status, the country they live in (24), and caregivers' diseases (32) affected their satisfaction. By contrast, one study reported that caregiver satisfaction was not affected by the recipient's age or the caregiver's age, gender, and duration of caregiving (21). Similarly, the study by Kuuppelomäki et al. found no correlation between caregiver satisfaction and the patient's age, the tasks included in caregiving, duration of caregiving, and the number of hours caregiving provided in a day (10). Our study found that only those with educational status of being literate and those who expressed having no difficulty in caregiving had significantly higher CASI-TR scores.

When we considered all findings of the study regarding the reliability and validity, we found that CASI-TR was a reliable and valid measurement tool for the sample group to which it was applied. The CASI-TR can be used easily in clinics or home visits by healthcare professionals for assessing caregiver satisfaction. For the quality of care, it is important for all healthcare personnel providing health care to assess the caregiving family member when they assess the patient. The degree of continuity of the patient's health is dependent on the quality of care

provided by the caregiver. Therefore, it is important for clinicians to assess caregivers' positive and negative feelings related to caregiving at specific periods and to conduct the necessary practices for caregivers based on these assessment results. Healthcare personnel can safely use the CASI-TR in their clinical practices and studies to assess caregiver satisfaction and monitor satisfaction level. We suggest applying the CASI-TR in larger sample groups and for caregivers of individuals with common diseases and checking whether its factor construct is preserved.

There are some limitations in the study. The first is that the study was conducted in one center, and the second is that the study was not specific to the disease. This study did not assess the criterion-related validity of the CASI because Turkish version of a similar measurement tool that assesses caregiver satisfaction was not available. While this study has some limitations, its strengths are that the sampling included 10 caregivers per item and three different methods assessed the reliability.

In conclusion, CASI is a specific tool for assessing caregiver satisfaction. As a result, we found that the Turkish version of the CASI was culturally well-adapted with acceptable validity and reliability.

Sources of Support: None.

Conflict of Interest: None.

Ethical Approval: Approval was received from the Aksaray University Human Studies Ethics Council (2016/13).

Informed Consent: Written informed consent was obtained from all study participants.

Acknowledgements: The study was conducted between June 2016 and September 2017 in Aksaray University Training and Research Hospital. An abstract of this work has been presented as an oral presentation at the 20th International Conference on Nursing and Midwifery. Prague, Czechia, March 22-23, 2018.

REFERENCES

1. Chang HY, Chiou CJ, Chen NS. Impact of mental health and caregiver burden on family caregivers' physical health. *Arch Gerontol Geriatr.* 2010;50(3):267-71.
2. Kim H, Chang M, Rose K, Rose S. Predictors of caregiver burden in caregivers of individuals with dementia. *J Adv Nursing.* 2012;68(4):846-55.
3. Fekete M, Szabo A, Stephens C, Alpass F. Older New Zealanders in caregiving roles: psychological functioning of caregivers of people living with dementia. *Dementia (London).* 2017. doi: 1471301217725897.
4. Janssen EP, de Vugt M, Köhler S, Wolfs C, Kerpershoek L, Handels RL, et al. Caregiver profiles in dementia related to quality of life, depression and perseverance time in the European Actifcare study: the importance of social health. *Aging Ment Health.* 2017;21(1):49-57.
5. Yıldırım S, Akyüz Ö, Engin E, Gültekin K. The relationship between psychiatric patients' caregivers burden and anger expression styles. *J Clin Nurs.* 2018;27(3-4): 725-31.
6. Fonareva I, Oken BS. Physiological and functional consequences of caregiving for relatives with dementia. *Int Psychogeriatr.* 2014;26(5):725-47.
7. Balducci C, Mnich E, McKee KJ, Lamura G, Beckmann A, Krevers B, et al. Negative impact and positive value in caregiving: validation of the COPE index in a six-country sample of carers. *Gerontologist.* 2008;48(3):276-86.
8. Vellone E, Fida R, Cocchieri A, Sili A, Piras G, Alvaro R. Positive and negative impact of caregiving to older adults: a structural equation model. *Prof Infirm.* 2011;64(4):237-48.
9. Hanyok LA, Mullaney J, Finucane T, Carrese J. Potential caregivers for homebound elderly: more numerous than supposed? *J Fam Pract.* 2009;58(7):E1-6.
10. Kuuppelomäki M, Sasaki A, Yamada K, Asakawa N, Shimanouchi S. Family carers for older relatives: sources of satisfaction and related factors in Finland. *Int J Nurs Stud.* 2004;41(5):497-505.
11. Shirai Y, Koerner SS, Kenyon DB. Reaping caregiver feelings of gain: the roles of socio-feelingal support and mastery. *Aging Ment Health.* 2009;13(1):106-17.
12. Cohen CA, Colantonio A, Vernich L. Positive aspects of caregiving: rounding out the caregiver experience. *Int J Geriatr Psychiatry.* 2002;17(2):184-8.
13. McKee KJ, Philp I, Lamura G, Prouskas C, Oberg B, Krevers B, et al. The COPE index - a first stage assessment of negative impact, positive value and quality of support of caregiving in informal carers of older people. *Aging Ment Health.* 2003;7(1):39-52.
14. de Labra C, Millán-Calenti JC, Buján A, Núñez-Naveira L, Jensen AM, Peersen MC, et al. Predictors of caregiving satisfaction in informal caregivers of people with dementia. *Arch Gerontol Geriatr.* 2015;60(3):380-8.
15. Orbell S, Hopkins N, Gillies B. Measuring the impact of informal caregiving. *J Community Appl Soc Psychol.* 1993;3(2):149-63.
16. Pound P, Gompertz P, Ebrahim S. Development and results of a questionnaire to measure carer satisfaction after stroke. *J Epidemiol Community Health.* 1993;47(6):500-5.
17. Nolan M, Grant G, Keady J. Assessing the needs of family carers: a guide for family practitioners. Brighton: Pavilion Publishing; 1998.
18. Yong AG, Pearce S. A beginner's guide to factor analysis: focusing on exploratory factor analysis. *Tutor Quant Methods Psychol.* 2013;9(2):79-94.
19. Greenwood N, Mackenzie A, Cloud C, Wilson N. Informal carers of stroke survivors-factors influencing carers: a systematic review of quantitative studies. *Disabil Rehabil.* 2008;30(18):1329-49.
20. Nolan M, Grant G. Regular respite: an evaluation of a hospital rota bed scheme for elderly people. Research Monograph Series, Age Concern Institute of Gerontology. London: ACE Books; 1992.
21. Grant G, Nolan M. Informal carers: sources and concomitants of satisfaction. *Health Social Care.* 1993;3(1):147-59.
22. Akgül A. Tıbbi araştırmalarda istatistiksel analiz teknikleri- SPSS uygulamaları. 3. Baskı. Ankara: Ocak Yayınları; 2005.
23. Ekwall AK, Hallberg IR. The association between caregiving satisfaction, difficulties and coping among older family caregivers. *J Clin Nurs.* 2007;16(5):832-44.
24. McKee K, Spazzafumo L, Nolan M. Components of the difficulties, satisfactions and management strategies of carers of older people: a principal component analysis of CADI-CASI-CAMI. *Aging Ment Health.* 2009;13(2):255-64.
25. Mollaoglu M, Durna Z, Bolayır E. Validity and reliability of the Quality of Life in Epilepsy Inventory (QOLIE-31) for Turkey. *Noro Psikiyatırs Ars.* 2015;52(3):289-95.
26. Scott DL, Garrood T. Quality of life measures: use and abuse. *Baillieres Best Pract Res Clin Rheumatol.* 2000;14(4):663-87.
27. Aras Z, Bayık Temel A. Evaluation of validity and reliability of the Turkish Version of Health Literacy Scale. *FN Hem Derg.* 2017;25(2):85-94.
28. Harrington D. Confirmatory factor analysis. New York: Oxford University Press; 2009.
29. Alpar R. Spor bilimlerinde uygulamalı istatistik. Ankara: Nobel Yayınevi; 2006.
30. Küçükgüçlü Ö, Esen A, Yener G. Bakım Verenlerin Yüklü Envanteri'nin Türk Toplumunu için geçerlik ve güvenilirliğinin incelenmesi. *J Neurol Sci Turk.* 2009;26(1):60-73.
31. Erkuş A. Psikometri üzerine yazılar. Ankara: Türk Psikologlar Derneği Yayınları; 2003.
32. Mayor MS, Ribeiro O, Paúl C. Satisfaction in dementia and stroke caregivers: a comparative study. *Rev Latino-am Enfermagem.* 2009;17(5):620-4.

Bakım Verenlerin Memnuniyetini Değerlendirme İndeksi

Bakım verme sıklıkla zor ve stresli bir görev olmasına karşın birçok bakım veren için kişisel doyumu arttırmaktadır. Bu ankette bakım verenlerin bakım vermenin memnuniyet verici yönlerine yönelik ifadeleri bulunmaktadır. Lütfen her ifadeyi okuyunuz ve size uygun olanı işaretleyiniz. Aşağıda yer alan maddeler sizin durumunuza uyuyor ise bu durumdan ne kadar memnun olduğunuzu da size uygun şekilde işaretleyiniz. Eğer aşağıdaki maddeler sizin durumunuza uymuyor ise “benim durumuma uymuyor” seçeneğini işaretleyiniz.

	Benim durumuma uymuyor	Benim durumuma uyuyor		
		Memnuniyet vermiyor	Biraz memnuniyet veriyor	Memnuniyet veriyor
1. Bakım verme yeni beceri ve yetenekler geliştirmemi sağladı				
2. Bakım verdiğim kişi yaptığım işe minnet duyuyor				
3. Bakım vermek bakım verdiğim kişiye yaklaşmamı sağladı				
4. Bakım verdiğim kişide küçük gelişmelerin olduğunu görmek iyidir.				
5. Bakım verdiğim kişiye potansiyelini tam olarak kullanabilmesi için yardım edebilirim.				
6. Baktığım kişinin benim için yaptıklarının karşılığını verebiliyorum.				
7. Bakım verme benim için mücadele etmeye ve motive olmaya neden olan bir iştir				
8. Tüm sorunlara rağmen bakım verdiğim kişi şikayetlenmiyor ya da söylenmiyor				
9. Bakım verdiğim kişinin temiz, rahat ve iyi olduğunu görmek güzeldir				
10. Bakım verme, görevimi yerine getirdiğim duygusunu yaşamamı sağlıyor.				
11. İnsanlara yardım etmekten hoşlanan biriyim.				
12. Bakım verdiğim kişinin mutlu olmasından memnuniyet duyuyorum				
13. Tanıdığım birine, bir başkasından daha iyi bakım verebilirim.				
14. Bakım vermek, kendimi suçlu hissetmemi engeller.				
15. Bakım verme beni iyi ve daha az bencil bir insan yaptı				
16. Değer verdiğim aile ve arkadaşlar tarafından takdir edildiğini hissetmek güzeldir				
17. Bakım vermek, yakın aile bağlarını ve ilişkileri güçlendirir.				
18. Bakım verdiğim kişinin zorluk ve sorunların üstesinden gelmesine yardım etmek iyidir				
19. Yaptığım işlerin bakım verdiğim kişiye memnuniyet vermesi güzeldir				
20. Baktığım kişinin yatılı bir kuruma yatmak zorunda kalmamasını sağlıyorum				
21. İşler tersine dönerse, bakımını üstlendiğim kişinin aynı şeyi benim için yapabileceğini düşünürüm.				
22. Bakım verdiğim kişinin iyi beslenmesini ve gereksinimlerinin karşılanmasını sağlayabilirim				
23. Bakım verme, ilgilerimi ve iletişimde bulunduğum kişilerin artmasına fırsat veriyor.				
24. Bakım verdiğim kişinin onurunu korumak benim için önemlidir				
25. Kendimi sınavabilirim ve zorlukların üstesinden gelebilirim				
26. Bakım verme inancımı göstermemin bir yoludur				
27. Bakım vermek, bana daha önce sahip olmadığım bir amaç kazandırdı				
28. Günün sonunda elimden gelenin en iyisini yaptığımı biliyorum				
29. Bakım vermek bakım verdiğim kişiye sevgimi göstermemin bir yoludur				
30. Bakım verme ihtiyaç duyduğumu ve istendiğimi hissetmemi sağlıyor				