



Original Article

Global social functioning of patients with schizophrenia and care burden of caregiving relatives

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Abstract

Objectives: This study aimed to determine the global social functioning levels of patients with schizophrenia and the burden experienced by their caregivers.

Methods: This study was conducted with primary caregivers of patients with schizophrenia in the psychiatry polyclinics of hospitals within Ankara. The study sample included 130 primary caregivers of outpatients of psychiatric polyclinics and was conducted between January and July of 2013. Data were collected using a patient and caregiver sociodemographic form, as well as the 'Zarit Caregiver Burden Scale' and the 'Functional Remission of General Schizophrenia Scale'.

Results: The study results revealed that both the caregivers' burden level (55.80 ± 15.90) and the patients' global social functionality level (49.96 ± 16.34) were medium, and that there was a moderate negative correlation between them ($r = -0.67$, $p < 0.001$).

Conclusion: In light of these results, it is suggested that psychiatric nurses plan psychosocial interventions to diminish the burden experienced by caregivers, and that psychosocial skills training sessions be implemented to improve the global social functioning of patients.

Keywords: Caregiving; caregiver burden; global social functionality; schizophrenia.

Schizophrenia, a chronic mental disorder that typically starts at a young age, involves a number of symptoms, including detachment from reality and usual interpersonal interactions, isolating withdrawal from everyday life, and a deterioration of senses, thoughts, and behaviors.^[1-4] In schizophrenia, due to the problems stemming from the very nature of the disorder and its positive symptoms, a devastating reduction in the functioning, personal care, and professional, social, and academic life of patients can occur.^[3,5] Problems in global social functioning lead patients to experience difficulties in establishing consistent behaviors in interpersonal relations, in fulfilling social and professional responsibilities, and in adhering to their medical treatment.^[6-8] Consequently, schizophrenia often prevents patients from living independently and diminishes their satisfaction with life. Therefore, schizophrenic patients need significant support in their daily life.^[7,9]

Assuming the family as a unit, the problems experienced by a patient with schizophrenia, who is also a member of this unit, will inevitably influence the whole family most of the time. On account of the breakdown caused by the disorder, the family members who take on the role of supporting and caring for the patient can also experience difficulties. The fact that patients with schizophrenia lose some of their capabilities results in changes to the daily family routine, as well as to the roles and responsibilities of the family members. Taking into account that even healthy families struggle to cope with problems effectively at certain times, in families with a member who has a mental disorder, coping difficulties are experienced much more often.^[8,10,11] Although there is a general awareness of the challenges that members of such families might face, one may still experience emotional, psychological, physical, and economic difficulties rather unexpectedly when assum-

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What is known on this subject?

- On account of being a chronic disorder, schizophrenia causes not only disability but also a significant reduction in functioning. Since the relatives of the patient are usually obliged to take on the caregiver role, their care burden inevitably increases when the patient's symptoms increase and their functioning is reduced.

What is the contribution of this paper?

- The results revealed that an impairment in patients' global social functioning leads to an increase in the care burden of caregivers. It was also found that certain personal traits in both caregivers and patients affect the care burden of caregivers.

What is its contribution to the practice?

- While working with patients and their caregivers, mental health professionals, especially mental health nurses, need to plan training sessions targeted at developing the psychosocial skills of patients and caregivers, as well as practice sessions to improve the global social functioning of patients. The provision of psychological training to caregivers will enable them to become better informed about the disorder, to get prepared for the role of caregiver, and to develop their skills to cope with it, which in turn might help to reduce the care burden.

ing caring responsibilities, and thus experience disturbances in family functioning.^[12-17]

The severity of symptoms, either positive or negative, hospitalization, medical visits, medication, and lower functionality are included among the factors that contribute to the caregiver burden related to schizophrenic patients. Yet it is the problems that emerge in the general functionality, inability to fulfill daily life activities, impairment in social functioning, and difficulties in the education and professional life of the patient that constitute the most important influences on the burden in caregivers of schizophrenic patients. This study therefore sought to evaluate the effects of the global social functioning level of patients with schizophrenia on the caregiver burden.

Materials and Method

Aim

The specific aim of the study was to evaluate the global social functioning level of patients with schizophrenia, the care burden of their primary caregivers, and the relationship between these two constructs.

Study Design and Sampling

This study was designed as a descriptive study, conducted with the primary caregivers of schizophrenic patients receiving outpatient treatment at psychiatry polyclinics in hospitals located within Ankara. Power analysis was performed to estimate the sample size. A pilot survey was administered to 30 primary caregivers in order to test the clarity of the survey questions. Data from these 30 preliminary surveys were analyzed with the SPSS 20.0 statistics software (Statistical Package for Social Sciences). Results from this analysis showed that, assuming a correlation of $r=-0.60$ between the Functional Remission of General Schizophrenia (FROGS) Scale and the Zarit Caregiver Burden Scale (ZCB) for patients with schizophrenia,

and a correlation estimate with an error margin of $d=0.15$, a sample size of 130 respondents, based on Type-I error ($\alpha=0.05$) and power of $1-\beta=0.75$, would be required. Therefore, the study sample did in fact include 130 primary caregivers of schizophrenic outpatients receiving care in psychiatric polyclinics. The study was conducted between January and July of 2013. The data were collected from the 130 primary caregivers, who were asked to provide patient sociodemographic information and to evaluate their global social functioning.

The following constituted the sampling inclusion criteria for participation: (1) the patient under the care of the primary caretaker must meet the DSM-IV criteria for a diagnosis of schizophrenia, (2) the caregiver must be the primary caregiver of a patient with schizophrenia, (4) the primary caregiver must be at least 18 years of age, (5) the primary caregiver must be fluent in Turkish and literate, (6) the patient must have been diagnosed with schizophrenia at least a year ago, (7) the primary caregiver must not have a psychiatric and/or mental disorder, (8) the primary caregiver must voluntarily agree to participate in the study and submit a written informed consent.

Data Collection Tools

The data were collected via three data collection tools, a patient and primary caregiver sociodemographic form, the Zarit Caregiver Burden (ZCB) scale, and the Functional Remission of General Schizophrenia (FROGS) scale, all of which were completed by the primary caregiver.

Patient and Caregiver Sociodemographic Form: This form was developed on the basis of the relevant literature to collect the sociodemographic and personal information of the patients and caregivers.^[6,18-20]

Zarit Caregiver Burden (ZCB) Scale: The ZCB Scale is a 22-item scale that was originally developed by Zarit et al.^[21] (1980) for caregivers of patients with dementia. The scale was later used to evaluate the burden experienced by caregivers of patients with schizophrenia. Cronbach's alpha score of the original ZCB version is 0.90 and 0.83 for the Turkish language version of the scale. In the present study, Cronbach's alpha score of the ZCB was 0.89. The validity and reliability of the scale in Turkey were assessed by Özlü et al.^[22] (2009), and after the removal of 3 items with factor loadings of less than 0.50, the scale was reduced to 19 items. The scale consists of the following subscales: 'Psychological Tension and Impaired Private Life', 'Irritability and Restrictedness', 'Impaired Social Relations', 'Economic Burden', and 'Dependence'. Scale responses are scored on a 5-point Likert-type scale, with anchors of 1 (never) and 5 (almost always). The maximum possible score on the scale is 95, while the minimum is 19, with higher scores indicating higher caregiver burden.

Functional Remission of General Schizophrenia (FROGS) Scale: The FROGS Scale was developed by Llorca et al.^[23] (2009) with the help of experts from the Functional Remission Observatory Group in Schizophrenia. It consists of 19 items scored on a 5-point Likert-type scale, with anchors of 1 (none)

and 5 (excellent). The validity of the Turkish-language version was confirmed by Emiroğlu et al.^[24] (2009). Cronbach's alpha score of the original FROGS version is 0.90 and 0.89 for the Turkish language version of the scale. For the present study, Cronbach's alpha score was 0.94. On the scale, the patients' relatives are to evaluate the functioning levels over the last month of the patients under their care, and each item has five levels of evaluation, with the first corresponding to the lowest functioning level and the fifth to the 'ideal' functioning level. The scale consists of four subscales, namely, 'Social Functioning', 'Health and Treatment', 'Daily Living Skills', and 'Occupational Functioning'. The maximum possible score on the scale is 95, while the minimum is 19, with higher scores indicating better global social functioning.

Procedure

Written consent to conduct the study was obtained from the relevant institutions prior to the study. After being informed about the content of the study, caregivers who were present in psychiatric polyclinics were asked to voluntarily provide their written consent. The data collection tools were administered under the supervision of the researcher and took approximately 25 minutes to complete for each participant.

Data Analysis

The data were analyzed with SPSS 20.0 after being coded. Descriptive statistics are presented as averages and percentages. The Shapiro-Wilks test was conducted in order to test the normality of the data set, the results of which confirmed normal distribution. For the parametric tests, t tests were used to compare the differences between two groups, while one-way variance analysis was conducted to identify the differences between more than two groups. When significant differences were found in the variables, Tukey's post hoc test was employed in order to identify the groups causing the revealed significant effects. The Pearson correlation coefficient was utilized to examine the relationship between the scores on the FROGS and ZCB scales.

Ethical Approval

Before conducting the study, the necessary permissions were granted from the related institutions, and written permission was obtained from the Hacettepe University Non-invasive Ethical Committee (Reference: LUT 12/169).

Results

The total and subscale scores obtained on the FROGS and ZCB scales are presented in Table 1. The patients' mean total FROGS score, according to the data provided by the primary caregivers, was 49.96±16.34. The mean scores on the FROGS sub-dimensions were 17.66±6.37 for Social Functioning, 11.90±4.10 for Health and Treatment, 15.90±5.84 for Daily Life Skills, and

Table 1. FROGS Scale and ZCB Scale mean scores

	Mean±SD	Min.–Max.
FROGS Scale		
Social functioning	17.66±6.37	7–35
Health and treatment	11.90±4.10	4–20
Daily life skills	15.90±5.84	6–28
Occupational functioning	4.49±1.88	2–10
Total score	49.96±16.34	20–87
ZCB Scale		
Psychological tension and impaired private life	19.65±7.63	7–35
Irritability and restrictedness	9.07±2.91	3–15
Impaired social relations	6.86±3.45	3–15
Economic burden	13.03±3.70	4–20
Dependence	7.17±2.36	2–10
Total score	55.80±15.90	21–89

FROGS: Functional Remission of General Schizophrenia; ZCB: Zarit Caregiver Burden; SD: Standard deviation; Min.: Minimum; Max.: Maximum.

4.49±1.88 for Occupational Functioning. The caregivers' total ZCB score was 55.80±15.90. The mean scores on the ZCB sub-dimensions were 19.65±7.63 for Psychological Tension and Impaired Private Life, 9.07±2.91 for Irritability and Restrictedness, 6.86±3.45 for Impaired Social Relations, 13.03±3.70 for Economic Burden, and 7.17±2.36 for Dependence.

The mean scores on the FROGS and ZCB scales were compared according to the sociodemographic characteristics, and the results from the statistical analyses conducted to determine significant differences are presented in Table 2 and Table 3.

Significant differences were found in the scores on the ZCB subscale, 'Psychological Tension and Impaired Private Life', for the following variables: age and occupational status of the patient, marital status of the caregiver, caregiver's monthly income, and time spent daily with the patient ($p<0.05$). Significant differences were identified in the scores on the ZCB subscale, 'Irritability and Restrictedness', for the following variables: substance-use status of the patient, age of the caregiver, monthly income of the caregiver, and time spent daily with the patient ($p<0.05$). Significant differences were found in the scores on the ZCB subscale, 'Impaired Social Relations', for the following variables: educational status of the patient, whether medication is used regularly, whether clinic visits are attended regularly, caregiver's relationship to the patient, monthly income, and time spent daily with the patient ($p<0.05$). Significant differences were found in the scores on the ZCB subscale, 'Economic Burden', for the following variables: age and occupational status of the patient, whether medication is used regularly, occupational status and monthly income of the caregiver, and time spent daily with the patient ($p<0.05$). Significant differences were found in the scores on the ZCB subscale, 'Dependence', for the following variables: monthly income of the caregiver and time spent daily with the patient

Table 2. Mean scores on Zarit Caregiver Burden Scale according to characteristics of patient and caregiver

Characteristics of patient (n=130)	Zarit Caregiver Burden Scale					
	Total score	Psychological tension and impaired private life	Irritability and restrictedness	Impaired social relations	Economic burden	Dependence
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Age						
18-29 ^a (n=35)	60.65±14.74	22.91±6.80	9.80±2.27	6.88±3.22	14.17±3.06	6.88±2.41
30-41 ^b (n=44)	56.38±14.56	19.45±7.43	8.97±2.64	7.00±3.33	13.68±3.40	7.27±2.32
42-53 ^c (n=34)	53.44±15.39	18.11±7.27	8.76±3.02	7.11±3.56	12.23±3.52	7.20±2.08
54+ ^d (n=17)	49.00±20.13	16.52±8.63	8.47±3.53	5.94±4.08	10.58±4.74	7.47±2.98
Statistical analysis*	F=2.47 p=0.065	F=3.779 p=0.012	F=1.112 p=0.347	F=0.484 p=0.694	F=4.953 p=0.003	F=0.285 p=0.836
*Tukey HSD Test		a>c. a>d			d<a. d<b	
Educational status						
Illiterate ^a (n=5)	64.00±20.79	22.40±9.93	11.40±3.78	9.40±4.50	13.00±2.23	7.80±2.28
Primary school ^b (n=25)	57.76±19.74	19.96±8.19	9.40±3.35	7.92±3.85	13.60±4.51	6.88±2.90
Secondary school ^b (n=10)	54.00±14.82	18.70±7.94	8.40±3.40	6.40±2.63	13.90±3.17	6.60±2.01
High school ^d (n=61)	56.80±15.28	20.37±7.52	9.14±2.85	6.91±3.41	13.11±3.51	7.24±2.34
University ^e (n=29)	51.20±12.56	17.72±6.94	8.48±2.16	5.55±2.83	12.06±3.72	7.37±2.07
Statistical analysis*	F=1.129 p=0.346	F=0.807 p=0.523	F=1.328 p=0.263	F=2.466 p=0.048	F=0.775 p=0.544	F=0.393 p=0.813
*Tukey HSD Test				e<a		
Occupational status						
Employed ^a (n=21)	53.66±13.98	18.95±6.52	9.19±2.61	6.42±2.67	12.38±3.42	6.71±2.02
Unemployed ^b (n=90)	58.38±15.13	20.83±7.55	9.30±2.88	7.27±3.47	13.65±3.35	7.32±2.25
Retired ^c (n=19)	45.89±17.93	14.84±7.47	7.89±3.22	5.36±3.75	10.78±4.69	7.00±3.16
Statistical analysis*	F=5.412 p=0.006	F=5.268 p=0.006	F=1.865 p=0.159	F=2.667 p=0.073	F=5.418 p=0.006	F=0.622 p=0.539
*Tukey HSD Test	b>c	b>c			b>c	
Duration of disorder (years)						
1-3 ^a (n=16)	57.12±13.39	21.18±7.35	9.18±2.66	6.06±3.17	14.06±3.45	6.62±2.06
4-6 ^b (n=18)	56.44±17.67	18.05±8.59	9.22±3.15	7.61±4.07	14.72±3.17	6.83±2.70
7-9 ^c (n=15)	57.93±16.67	21.80±7.30	9.33±2.87	6.73±3.19	12.93±3.15	7.13±2.35
10-12 ^d (n=22)	58.09±15.57	20.22±7.48	9.59±2.85	7.63±3.23	13.04±3.52	7.59±2.13
13-15 ^e (n=21)	58.00±13.78	21.14±6.98	9.19±2.99	6.71±3.37	13.61±3.35	7.33±2.45
16+ ^f (n=38)	51.55±17.11	17.76±7.71	8.50±3.01	6.52±3.57	11.50±4.13	7.26±2.47
Statistical analysis*	F=0.789 p=0.559	F=1.184 p=0.321	F=0.467 p=0.800	F=0.638 p=0.671	F=2.543 p=0.032	F=0.405 p=0.844
*Tukey HSD Test					f<b	
Medication						
Regularly ^a (n=95)	53.62±15.59	19.03±7.37	8.82±2.87	6.23±3.18	12.53±3.82	7.00±2.50
Irregularly ^b (n=22)	57.46±14.87	19.38±8.16	9.23±2.97	7.07±3.72	14.23±2.83	7.53±2.25
Rarely ^c (n=13)	64.22±15.52	22.50±8.09	10.09±2.95	9.45±3.30	14.45±3.21	7.72±1.66
Statistical analysis*	F=4.254 p=0.016	F=1.80 p=0.157	F=1.733 p=0.181	F=8.764 p=0.000	F=3.255 p=0.042	F=1.014 p=0.366
*Tukey HSD Test	a<c			a<c	a<c	
Medical visits						
Regularly (n=118)	55.10±15.77	19.45±7.58	8.96±2.87	6.64±3.29	12.94±3.75	7.09±2.41
Irregularly (n=12)	62.66±16.19	21.58±8.10	10.16±3.18	9.00±4.34	13.91±3.20	8.00±1.70
Statistical analysis*	t=-1.545 p=0.895	t=-0.919 p=0.885	t=-1.363 p=0.971	t=-2.290 p=0.046	t=-0.868 p=0.312	t=-1.269 p=0.088
Substance addiction						
Yes (n=70)	57.45±17.13	20.32±7.96	9.14±3.16	7.07±3.51	13.47±3.80	7.44±2.40
No (n=60)	53.86±14.24	18.86±7.20	9.00±2.61	6.61±3.38	12.51±3.54	6.86±2.29
İstatistiksel Analiz	t=1.286 p=0.039	t= 1.090 p=0.282	t=0.277 p=0.035	t= 0.748 p=0.813	t= 1.470 p=0.207	t= 1.390 p=0.743

Table 2. Mean scores on Zarit Caregiver Burden Scale according to characteristics of patient and caregiver (cont.)

Characteristics of caregivers (n=130)	Zarit Caregiver Burden Scale					
	Total score	Psychological tension and impaired private life	Irritability and restrictedness	Impaired social relations	Economic burden	Dependence
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Age						
20-34 ^a (n=15)	61.66±17.28	22.20±8.07	10.26±2.89	8.86±4.68	13.86±3.60	6.46±2.16
35-49 ^b (n=43)	58.55±15.95	20.39±7.60	9.60±2.98	7.58±3.37	13.48±3.52	7.48±2.30
50-64 ^c (n=51)	54.68±15.56	19.52±7.67	8.82±3.01	6.27±2.86	13.00±3.86	7.05±2.63
65+ ^d (n=21)	48.66±13.54	16.61±6.72	7.76±1.99	5.38±3.10	11.57±3.59	7.33±1.90
Statistical analysis*	F=2.706 p=0.048	F=1.839 p=0.143	F=2.985 p=0.034	F=4.420 p=0.005 a>c, a>d	F=1.579 p=0.198	F=0.769 p=0.513
* Tukey HSD Test						
Marital status						
Married (n=99)	54.51±16.31	18.93±7.89	8.88±3.02	6.61±3.30	12.82±3.68	7.24±2.41
Single (n=31)	59.90±14.00	21.93±6.30	9.67±2.48	7.64±3.81	13.67±3.75	6.96±2.22
Statistical analysis	t=-1.657 p=0.240	t=-1.923 p=0.033	t=-1.317 p=0.251	t=-1.455 p=0.214	t=-1.114 p=0.831	t=0.563 p=0.576
Relationship to patient						
Parent (n=8)	56.87±18.69	20.87±8.54	9.87±2.85	8.62±3.77	11.37±3.77	6.12±2.35
Children (n=69)	56.08±13.88	20.26±7.33	8.97±2.57	6.20±2.79	13.44±3.15	7.20±2.22
Spouse (n=27)	53.00±19.47	18.22±8.34	8.96±3.68	7.40±4.01	11.66±4.03	6.74±2.83
Sibling (n=22)	59.54±15.61	19.95±6.99	9.40±3.04	8.18±4.01	14.27±4.10	7.72±2.14
Other (n=4)	47.00±20.44	14.75±10.21	8.25±3.20	3.75±1.50	5.56±2.78	8.75±1.89
Statistical analysis	F=0.831 p=0.508	F=0.815 p=0.518	F=0.328 p=0.859	F=3.133 p=0.017	F=2.421 p=0.052	F=1.385 p=0.243
Occupational status						
Employed ^a (n=37)	53.24±15.41	18.29±6.78	8.59±2.93	6.94±3.29	12.81±4.24	6.59±2.53
Unemployed ^b (n=59)	60.03±16.63	21.52±8.09	9.86±2.97	7.35±3.68	13.66±3.54	7.62±2.30
Retired ^c (n=34)	51.23±13.51	17.88±7.11	8.23±2.48	12.17±3.25	12.17±3.25	7.02±2.18
Statistical analysis*	F=4.163 p=0.018	F=3.397 p=0.037	F=4.280 p=0.016	F=1.933 p=0.149	F=1.843 p=0.163	F=2.304 p=0.104
* Tukey HSD Test	b>c	b>c	b>c			
Monthly income						
High ^a (n=47)	43.90±14.33	14.27±6.00	7.27±2.90	4.63±2.33	10.36±3.47	7.36±2.87
Middle ^b (n=72)	52.58±14.79	18.81±7.43	8.59±2.59	6.25±3.02	12.25±3.62	6.66±2.36
Low ^c (n=11)	63.51±14.70	22.19±7.45	10.23±3.02	8.31±3.75	14.85±3.09	7.91±2.07
Statistical analysis*	F=11.746 p=0.000	F=6.232 p=0.003	F=7.457 p=0.001	F=8.499 p=0.000	F=11.795 p=0.000	F=4.200 p=0.017
* Tukey HSD Test	c>a, c>b	c>a, c>b	c>a, c>b	c>a, c>b	c>a, c>b	c>b
Time spent daily with patient (hours)						
1-6 ^a (n=41)	50.60±15.62	17.00±7.24	8.31±2.82	6.43±3.04	12.56±4.03	6.29±2.44
7-12 ^b (n=44)	55.25±14.70	19.54±7.11	8.75±2.91	6.75±3.49	12.88±3.43	7.31±2.17
13-18 ^c (n=13)	59.15±16.95	22.53±8.40	9.46±2.81	6.61±4.57	12.92±3.66	7.61±2.46
19-24 ^d (n=32)	61.84±15.74	22.03±7.64	10.34±2.76	7.65±3.40	13.87±3.67	7.93±2.21
Statistical analysis*	F=3.383 p=0.020	F=3.503 p=0.017	F=3.377 p=0.021	F=0.805 p=0.494	F=0.794 p=0.499	F=3.397 p=0.020
* Tukey HSD Test	a<d	a<c	a<d			a<d

($p < 0.05$). Finally, significant differences were found in the total ZCB scores of the caregivers for the following variables: substance-use of the patient, age of the caregiver, occupational status and monthly income of the caregiver, and time spent daily with the patient ($p < 0.05$).

Statistically significant differences were not found in the total ZCB scores or in the mean scores on any of the ZCB subscales for the following variables: gender of the patient, marital status of the patient, gender of the caregiver, educational status of the caregiver, duration of caregiving, and the experiencing

Table 3. Mean scores on Functional Remission of General Schizophrenia Scale according to characteristics of patients

Characteristics of patients (n=130)	Functional Remission of General Schizophrenia				
	Total score	Social functioning	Health and treatment	Daily life skills	Occupational functioning
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Education status					
Illiterate ^a (n=5)	35.00±11.76	13.80±4.49	6.80±3.11	11.00±3.80	3.40±1.34
Primary school ^b (n=25)	49.20±22.25	17.56±8.55	11.32±4.96	15.72±7.39	4.60±2.44
Secondary school ^c (n=10)	47.30±12.14	16.50±4.76	12.30±2.58	13.50±4.64	5.00±2.21
Lise ^d (n=61)	49.59±15.51	17.90±6.31	11.83±3.94	15.44±5.45	4.40±1.80
University ^e (n=29)	54.89±12.41	18.34±4.98	13.27±3.56	18.68±4.77	4.58±1.47
Statistical analysis*	F=1.844	F=0.642	F=3.080	F=3.268	F=0.659
	p=0.125	p=0.634	p=0.019	p=0.014	p=0.622
*Tukey HSD Test			e>a	e>a	
Occupational status					
Employed ^a (n=21)	57.61±14.08	20.19±6.13	13.38±3.58	18.52±4.77	5.52±1.86
Unemployed ^b (n=90)	46.33±15.66	16.51±6.04	11.33±4.18	14.37±5.48	4.11±1.74
Retired ^c (n=19)	58.68±16.29	20.36±6.80	12.94±3.83	20.21±5.60	5.15±2.06
Statistical analysis*	F=8.017	F=5.149	F=2.925	F=12.127	F=6.681
	p=0.001	p=0.007	p=0.057	p=0.000	p=0.002
*Tukey HSD Test	a>b, c>b	a>b, c>b		a>b, c>b	a>b
Medication					
Regularly ^a (n=95)	52.56±17.27	18.53±6.86	12.65±4.26	16.90±6.07	4.75±1.94
Irregularly ^b (n=22)	48.07±13.35	18.25±5.02	10.07±3.14	14.76±5.40	4.69±1.84
Rarely ^c (n=13)	39.81±7.82	14.63±3.51	9.72±2.62	12.22±2.84	3.22±0.97
Statistical analysis*	F=5.959	F=3.111	F=6.459	F=6.508	F=6.444
	p=0.003	p=0.048	p=0.002	p=0.002	p=0.002
*Tukey HSD Test	a>c	a>c	a>c	a>c	a>c
Medical visits					
Regularly (n=118)	50.83±16.48	17.94±6.52	12.20±4.09	16.14±5.86	4.55±1.87
Irregularly (n=12)	41.33±12.31	15.00±3.78	8.91±2.99	13.50±5.23	3.91±2.02
Statistical analysis	t=1.940	t=1.531	t=2.705	t=1.501	t=1.109
	p=0.152	p=0.047	p=0.116	p=0.413	p=0.707
Substance addiction					
Yes (n=70)	48.60±15.97	17.31±6.33	11.81±3.77	15.22±5.73	4.24±1.86
No (n=60)	51.55±16.75	18.08±6.43	12.00±4.49	16.68±5.92	4.78±1.89
Statistical analysis	t=-1.026	t=-0.685	t=-0.256	t=-1.421	t=-1.637
	p=0.949	p=0.705	p=0.030	p=0.598	p=0.675

of economic difficulties in the process of caregiving ($p>0.05$).

On the FROGS Scale, significant differences were found in the scores on the subscale, 'Social Functioning' for the following variables: occupational status of the patient, whether medication is used regularly, and whether clinic visits are attended regularly ($p<0.05$). Significant differences were found in the scores on the subscale, 'Health and Treatment', for the following variables: educational level of the patient, whether medication is used regularly, and substance use ($p<0.05$). Significant differences were found in the scores on the subscale, 'Daily Living Skills', for the following variables: educational

level of the patient, occupational status of the patient, and whether medication is used regularly ($p<0.05$). Significant differences were found in the scores on the subscale, 'Occupational Functionality', for the following variables: occupational status of the patient and whether medication is used regularly ($p<0.05$). Finally, significant differences were found in the total FROGS scores for the following variables: occupational status of the patient and whether medication is used regularly ($p<0.05$).

Statistically significant differences were not found in the total FROGS scores or in any of the mean scores on the FROGS sub-

scales for age, gender, marital status of the patient, and duration of the disorder ($p > 0.05$).

A moderate negative association was determined between the total FROGS score of the schizophrenic patients and the total ZCB score of the caregivers ($r = -0.67$, $p < 0.001$).

Discussion

In this section, the distribution of the scores presented by the caregivers on the ZCB scale according to different variables and the effects of the patients' sociodemographic and disorder characteristics on their global social functioning are discussed in light of the relevant literature.

Caregivers' Burden with Respect to Sociodemographic and Disorder Characteristics

The lowest score that can be taken on the ZCB scale is 19, while the highest score is 95. There is no cut-off point for the scale. In the present study, the mean total burden score of the caregivers was 55.80 ± 15.90 , which indicates that the caregivers had above-average burden scores, or, otherwise stated, that they experienced a moderate burden level.

Those caring for younger patients, as compared to those caring for older patients, were found to have significantly higher burden scores. This could be attributed to the possibility that when the disorder has newly started, the caregiver might not be fully familiar with the disorder, and their expectations of the patient having the capacity to fulfill his/her roles and responsibilities are still in alignment with their past life experiences, despite the inability of the patient to meet these expectations. In similar studies, caregivers of relatively younger patients emphasized that they experienced a greater burden, since they had to spend more time with the young patient.^[20,25,26] However, in a study conducted in Turkey, it was revealed that the older the patient was, the more burden the caregivers experienced.^[18]

In the present study, there was no significant difference in the burden scores of the caregivers in terms of the gender of the patient. While there are some studies whose results support this finding,^[18-20] there are other studies that show there was an increase in burden when caring for male patients due to their incapability of fulfilling their social roles.^[6,27]

No significant difference was found in the burden scores of the caregivers in terms of the marital status of the patient. It is understood from this finding that whether patients are single or married does not make a difference in terms of the caregivers' perception of burden. There are various studies whose results support this finding.^[13,18,19]

Those caring for university graduate patients were found to have significantly lower burden scores compared to those caring for patients with lower educational levels. This is thought to stem from the fact that university graduates display better functioning. In another study, it was found that university graduates showed better functioning, and that there was less

burden for the caregivers,^[28] but other studies have found there to be no significant differences in burden level in terms of the educational level of the patient.^[19,20]

Those caring for retired patients were found to have significantly lower burden scores compared to the scores of those caring for unemployed patients. This could be due to the fact that retired patients are relatively older and have a regular income, and that they might have learned how to cope with the disorder, since they probably have had it for a long time. When the results of the study are examined in greater detail, it can be seen that since the caregivers of unemployed patients have no financial income, they experience more burden.^[27,29] Results from other studies, though, reported there to be no significant differences in burden according to the occupational status of the patient.^[19,20]

Those caring for patients who had had the disorder for 16 years or more were found to have significantly lower burden scores compared to the scores of those looking after newer patients. This finding could be explained by the possibility that in time, families show an acceptance towards the course of the disorder and reshape their expectations in ways that are more realistic. Igberase et al.^[29] (2012) also found that as the disorder progresses and the duration of care increases, the burden of the caregivers decreases, which supports the findings from the present study. However, Talwar and Matheiken^[30] (2010) found that there was an increase in burden as the duration of the disorder lengthened. Additionally, there are studies that reported there to be no difference in caregivers' burden according to the duration of the disorder.^[31,32]

Those caring for patients who use their medication and visit the clinic regularly were found to have significantly lower burden scores compared to the scores of those caring for patients who did not comply with the treatment. This finding could be explained by the fact that patients who use their medication and visit the clinic regularly are better adapted to the treatment and have a lower number of hospitalization days, thereby achieving better functioning. In another study, however, no significant differences were found in caregivers' burden according to the patients' compliance and adjustment to the treatment.^[20]

Those caring for substance-using patients were found to have significantly higher burden scores compared to the those of the caregivers looking after non-users. This is a significant finding, since there are high numbers of substance users, especially cigarette smokers, among patients with schizophrenia. The individuals who provide care to smokers and users of other substances, such as marijuana and recreational drugs, have to deal with economic problems as well as issues stemming from the use of these substances.

Older caregivers were found to have significantly lower burden scores compared to those of younger ones. That care burden decreases as the age of the caregiver increases might be attributed to the possibility that the caregiver becomes more tolerant of the disorder and parent caregivers simply feel obliged

to care for the patient after having internalized these caring responsibilities. In some studies, it was also found that the burden decreases as the age of the caregiver increases,^[26,33,34] while there are other studies that found the opposite.^[19,31,35]

No significant difference was found in burden levels according to the gender of the caregiver. The relevant literature suggests that the majority of caregivers are women, and that women are faced with a much heavier burden when, in addition to the many other roles they assume, take on the additional role of patient caregiver.^[6,26,33,35] However, there are other studies whose results have shown there to be a high number of male caregivers, and that the job of providing care seems to cause even more burden on males, since this is not a role traditionally attributed to them.^[19,29]

The burden scores of single caregivers were significantly higher than those of married caregivers. This might be due to the possibility that single caregivers have to deal with the disorder and undertake all other responsibilities by themselves and cannot find the social support that their married counterparts usually obtain. In Ohaeri's^[36] (2001) study, it was found that greater impairment to the family routines of single or widowed caregivers, and that they experienced financial difficulties more often, which, in effect, increased the burden of caregiving. Other studies reported, however, that the marital status of the caregiver had no effect on the burden of caregiving.^[18–20,37]

In cases where the caregiver was the son or daughter of the patient, the burden scores were significantly higher. The findings of a study by Lim and Ahn^[38] (2003) show similarities with those of the present study. This association might be caused by the possibility that since the caregiver is the child of the patient, young caregivers might have lower levels of tolerance towards the patient and the disorder and might have difficulties in meeting their own responsibilities. In some studies, it was revealed that the majority of caregivers were mothers, and that they carried more burden.^[6,13,26,39] Another study found that the relationship of the caregiver to the patient had a significant effect on the degree of burden.^[31]

No significant effect of the caregivers' educational level was found on their burden scores. There are similar studies in support of this finding in the literature.^[31,32] Other studies, however, found that the level of burden seemed to diminish as the level of education of the caregiver increased.^[18,19,26,29]

Retired caregivers were found to have significantly lower burden scores when compared to those of unemployed caregivers. This finding is thought to be related to the fact that retired people have not only a regular income but also health insurance coverage to meet the treatment and medication expenses. This finding is further supported by Chien et al.'s^[31] (2007) study.

Caregivers with higher monthly incomes were found to have significantly lower burden scores compared to those with lower incomes. This might be related to the relative ease of high-income caregivers in meeting the necessities of the patient and their treatment expenses. There are studies in support of this finding in the literature.^[6,30,35]

In the present study, years or duration of caregiving did not seem to have an effect on burden scores. However, Igberase^[29] et al. (2012) found that as the number of years of caregiving increase, the degree of burden increases too. This finding is significant in that it puts forward the difficulty of providing care to patients that cannot fulfil their life tasks themselves, since global functioning declines as the duration of caregiving is lengthened. Some studies found similar results,^[27,32,40] while others have reported the opposite.^[41]

The mean burden scores of the caregivers who participated in family trainings and related associations and charity organizations were found to be significantly lower. Caregivers that attend family trainings seem to learn how to better perceive the disorder and approach the patient and are able to gain social support as a result of getting together with persons experiencing the same difficulties, which enables sharing and thus reduces the degree of burden. The literature also shows that enhanced insight into the disorder and social support can ease the burden of caregivers.^[6,31,42,43]

Global Social Functioning of Schizophrenia Patients According to their Sociodemographic and Disorder Characteristics

The lowest score that can be taken from the FROGS scale is 19, while the highest score is 95, and there is no cut off point for the scale. In the present study, the mean total global functional remission score of the patients was 49.96 ± 16.34 , which was above-average, meaning that the patients showed moderate social functional remission. Coşkun and Altun^[44] (2018), however, found in their study that schizophrenic patients had low levels of functional recovery.

No significant differences were found in global social functioning scores in terms of the age, gender, or marital status of patients. This finding is consistent with that reported by Tatlıdil^[45] (2008). Browne et al.^[46] (1996), however, found in their study on the life quality of patients with schizophrenia that their life quality worsened as they aged. In addition to the studies showing there to be no relationship between the gender of patients and their functioning scores,^[47,48] there are others reporting that females had higher functioning scores than those of males.^[28,49–51] Furthermore, some studies show that married patients have higher functioning scores and better life quality than single or widowed patients.^[48,49,52]

The global social functioning scores of university graduates were found to be significantly higher than those of patients with lower educational levels. This might be because patients develop certain social skills and become more functional as their level of education rises. Other studies have also shown that patients with higher levels of education presented fewer negative symptoms and had higher functioning scores.^[50,51,53,54]

The global social functioning scores of working or retired patients were found to be significantly higher than those of un-

employed patients. This finding suggests that the active participation of the patient in social life affects their global social functioning positively. In other studies, it was also revealed that working patients displayed better functioning than unemployed patients, and that unemployed patients showed more negative symptoms.^[48,49,51,55]

The patients who used their medication and went to their clinic appointments regularly were found to have significantly higher global social functioning scores. This finding could be explained by the possibility that patients who are compliant with their treatment have fewer positive symptoms and are in greater harmony with the daily flow of life. Anlar et al.^[56] (2009) also found that patients who used their medication and attended their scheduled clinic visits regularly showed better functioning. The global social functioning scores of non-substance users were also found to be significantly higher than those of substance users.

A moderate negative relationship was found between the global social functioning scores of patients with schizophrenia and the burden scores of their caregivers. This suggests that as the functioning level of patients increases, the degree of burden that their caregivers experience decreases. It is believed that an increase or improvement in the functioning levels of patients results in them being able to better fulfill their own responsibilities and take a more active part in their own treatment and care, both of which significantly reduce the degree of burden for caregivers. Many studies in the literature support this finding.^[25,57-60]

Conclusion

As a mental disorder, schizophrenia affects not only patients but also their entire family. As such, it can have a major impact on the perception of burden experienced by those individuals who assume the role of caregivers. In this respect, mental health nurses, as part of the preventive role they play in mental health, are well placed to help families and caregivers adopt and use the necessary practices to cope with this disorder, keeping in mind that caregivers are especially at risk. Mental health nurses need to be able to evaluate and take full notice of the difficulties that each family goes through and provide them with all necessary information. As caregivers become better informed about the disorder, they are less likely to consider themselves ignorant regarding the disorder and therefore place less blame on themselves, which in turn will help them to develop their coping strategies and lead to less burden. As improvement in the functioning of patients will reduce the burden of their caregivers, mental health nurses need to plan psychosocial and psychological skill training and practice sessions directed at this.

Limitations of the Study

The study was conducted only in hospitals with psychiatry clinics in Ankara and the Association for Schizophrenic Pa-

tients and their Caregivers; therefore, the results obtained here cannot be generalized.

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