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RESEARCH ARTICLE

DETERMINING THE FAMILY SENSE OF COHERENCE AND CAREGIVING BURDEN OF CAREGIVERS OF PATIENTS WITH SCHIZOPHRENIA: A-CROSS SECTIONAL STUDY

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ABSTRACT

Purpose: This study aims to determine the caregivers' burden of care and the sense of family sense of coherence, the relationship between them, and the factors affecting them.

Methods: This is a descriptive, cross-sectional and correlational design study. Data were obtained using a “Personal Information Form”, “The Family Sense of Coherence Scale-Short Form ”, and “The Caregiving Burden Scale ”.

Results: The mean score of the caregivers was 49.47±15.20 on the caregiving burden, and 48.87±9.74 on the Family Sense of Coherence of the caregivers, 69.1% had a mean score on the Caregiving Burden higher than the average and 87.6% had a mean score on the Family Sense of Coherence higher than the average (moderate and high levels). There was a moderately significant negative correlation between Caregiving Burden and Family Sense of Coherence ($p <0.01$).

Conclusions: The primary caregivers of patients with schizophrenia who had a high degree of family sense of coherence had a reduced level of care burden, according to this study.

Keywords: Caregiving burden, family coherence, schizophrenia, primary caregiver

INTRODUCTION

Schizophrenia causes disability, economic and social losses, and has been reported to have a prevalence of 0.28%-1% (1). Between 20-30% of all patients with schizophrenia can carry on with their lives normally and have moderate symptoms while 40-60% can live in a way that allows them to perform certain functions throughout their lifetime (2,3). This awareness has led to families taking on greater involvement in the daily lives of patients, their treatment, and their care, and assuming the primary duty of caregiving (4,5). Therefore, psychiatric patient care was shifted away from treatment and care in psychiatric hospitals toward families (6).

The concept of "burden of care" emerged from this direction (6). The family burden is a multidimensional concept. Family studies have shown that the caregiving burden of families should be addressed and should be associated with concepts like high coherence reducing the caregiving burden so that caregivers, who are vulnerable against stressors, can protect their own life and lifestyle and provide care to their patients (7).

The caregiver's personality, the quality of family relationships, and the level of social support are all said to help the caregiver cope with this stress like a family burden (7). At this point, the concept of "sense of coherence (SOC)," a sub-concept of Aaron Antonovsky's (1979-1987) "salutogenesis model," which influences the quality of familial bonds and the degree of social support, now comes to the forefront of the world with a meaningful and intelligible viewpoint, at this time (8,9). SOC refers to an individual's ability to maintain orientation, order, and structure regardless of the intensity of their life circumstances. This concept consists of three fundamental components: comprehensibility, manageability, and significance. Within these three components, the following are also included: the idea that the internal and external stimuli faced by a person throughout his/her life are comprehensive and predictable, that there are various resources to cope with the stresses triggered by these stimuli, and that these stressors are manageable and changeable (8-10). Individuals with a strong sense of coherence are confident that they can solve or overcome obstacles and difficulties in their lives. Additionally, they are more equipped cognitively and emotionally within the scope of understanding the nature of problems and being prepared to face them (10- 12).

The salutogenic model incorporates Family Sense of Coherence (FSOC), which highlights the family's strengths and skills to accomplish successful adjustment (13). FSOC has been linked to support the acquisition, coping techniques, stress adaption, and individual well-being in a study by Lunkenheimer and Riggs (2015). An increased level of FSOC, according to Siah & Siew-Huei (2016) (14), indicates more adaptability and capability to cope with and handle adversity. It is stated that a sense of coherence has an important role in psychopathological variables in family-related situations (11,13). It is also expressed that support sources and coping strategies (family coherence) used in crises encountered are transferred from generation to generation (15). In this context, in a study examining family dynamics in groups from Germany, Israel, Palestine, and Turkey, it is stated that the concepts of intimacy and interdependence associated with family coherence variables are high in Turkish and Palestinian society. The study also found that the "independent family" is supported and high levels of welfare and normative individualism are taken into account, while these variables are low in German society (16).

Even though (FSOC) is connected with better health outcomes, it remains understudied (16). Therefore, it is important to preserve the sense of coherence of caregivers in terms of the quality of care provided to patients and their quality of life as this sense of coherence is assumed to be a critical variable in the reduction of the caregiving burden. The “Salutogenesis Model” is complementary to the conventional medical understanding of approaching the patient and disease pathogenically and addressing the patient/disease individually. It advocates a holistic approach to the patient and addresses not the disease but the component ensuring “well-being” (9,10,12). In terms of approach, both the salutogenesis model and its sub-concepts “sense of coherence”, which address the individual/family from the holistic perspective and address not the disease but the patient, are similar to the holistic care understanding of psychiatric nursing. Thus, these models are among the most suitable for psychiatric nursing. In this regard, this study was conducted to determine the family coherence and caregiving burden of primary caregivers of individuals with schizophrenia, and the relationship between them.

The purpose of this study is to determine the caregiver burden and family coherence of patients with schizophrenia, as well as the link between them and the factors that influence them.

METHODS

The Purpose of the study: This study aims to determine the caregivers' burden of care and the sense of family sense of coherence, the relationship between them, and the factors affecting them.

Type of the study: The research was conducted in a descriptive, cross-sectional, correlational type.

Sample: The population of the study consisted of the primary caregivers of 263 schizophrenia patients who applied to the outpatient clinic between March 1, 2017, and March 1, 2018. The participants in this study are 178 primary caregivers of schizophrenia patients who have been admitted to an outpatient clinic. between June 1, 2018, and October 1, 2018, who agreed to participate in the study without selecting a sample. Post-hoc power analysis was conducted to determine the sufficiency of the sample size. The power of the study was determined to be 0.90 with a significance level of 0.05 and a confidence interval of 95% confidence interval (Correlation H1=0.221, lower critical r=-0.123, upper critical r=0.123, power 0.90), indicating that the sample (n=178) was sufficient.

The inclusion criteria were as follows: (1) being the primary caregiver of a patient diagnosed with schizophrenia based on the DSM-5 criteria (an individual meeting all the needs of the patient with schizophrenia), (2) being 18 and older with the ability to communicate verbally, (3) being literate and willing to offer written informed consent and the ability to understand the survey instructions, The exclusion criteria were as follows: (1) mental retardation, dementia, or other serious biological illnesses, and mental illnesses, (2) being at the acute disease stage, (3) refuse to participate in the study, (4) having any affective, auditory, cognitive problem.

Data Collection Tools: Data were obtained using a “Personal Information Form” developed by the researcher, “The Family Coherence Scale-Short Form (FSOC-S)” and “The Caregiving Burden Scale (CBS)”.

Personal Information Form: The introductory information form for patients with schizophrenia was developed by the researchers in line with the literature and consists of 7 questions on the sociodemographic and clinical features (age, sex, educational level, marital status, duration of the disorder, employment status…) of patients, 11 questions on the caregiver’s sociodemographic characteristics (age, sex, educational level, family type, marital status, employment status, number of children, insurance coverage, place of residence, and income level…), 5 questions on caregiving (level of proximity with the patient, number of people providing support during the caregiving period, daily duration of caregiving, and living together with the patient…).

The Family Sense of Coherence Scale-Short Form (FSOC-S): The Family Sense of Coherence Scale (FSOC-S) was developed by Antonovsky and Sourani and has 26 items. It was shortened by Sagy (1998) (17) to include only 12 items. It is a 7-point Likert-type scale. The lowest possible score obtained from the scale is 12 while the highest score is 84. The scoring of the scale is as follows: 12-28 corresponds to low family coherence, 39-58 moderate family coherence, and 59-88 high family coherence. It covers three factors which are “Comprehensibility,” “Manageability,” and “Meaningfulness.” The internal consistency coefficients of the scale were determined to be 0.88 by Saggy (1998) and 0.77 by Sagy and Dotan (2001) (18). The Cronbach's alpha internal consistency coefficient of the scale as determined by the present study was 0.72.

The Caregiving Burden Scale (CBS): The Caregiving Burden Scale (CBS) was developed by Zarit, Reever, and Bach Peterson in 1980 (19). It is a five-point Likert-type scale with 22 items determining the effect of caregiving on an individual’s life. The lowest possible score obtained from the scale is 0 while the highest score is 88. Items in the scale generally contain social and emotional areas and high scores refer to high levels of experienced distress. The scoring of the scale is as follows: 0-20 points correspond to “no caregiving burden”, 21-40 points shows a “mild caregiving burden”, 41-60 points indicates a “moderate caregiving burden”, and 61-88 points means a “severe caregiving burden” (19, 20). It was adapted to Turkish by İnci (2006) (21), who also reported that the internal consistency coefficient of the scale changed between 0.87 and 0.94, the test-retest reliability was 0.71, and the internal consistency coefficient was 0.95. In the present study, the Cronbach's alpha internal consistency coefficient of the scale was found to be 0.89.

Ethics of the study: The written permission (dated 23.05.2018 and numbered E.421) of the hospitals where the study would be conducted was obtained. Ethical approval (dated 07.06.2016 and numbered 2018/137) of the Clinical Studies Ethics Committee of Ordu University was also obtained for study practices. The primary caregivers of individuals diagnosed with schizophrenia who met the inclusion criteria were interviewed. With regards to the ethical considerations of the study, participants were informed about the objectives of the study, and their informed consent was obtained.

Data analysis: The conformity of the data obtained in the study to normal distribution was verified with the Shapiro-Wilk normality test. The differences in the scores obtained from each scale and factor in terms of sociodemographic variables were determined using the Student's t-test, One-Way Variance Analysis (One-way ANOVA), and Tukey multiple comparison tests, and the correlations between them were determined with the Pearson correlation coefficient. A value between 0.70-1.00 indicates a high level of correlation, while a value between 0.30-0.70 indicates a moderate correlation and between 0.00-0.30 means a low level of correlation (22). The correlation between the distributions of the caregiving burden of caregivers and their family coherence levels was analyzed with the chi-square analysis (Fisher's exact test). Additionally, the equation of the correlation between the total scores on the FSOC-S and CBS, and some sociodemographic characteristics was determined using stepwise multiple regression analysis. The results of the study were presented as a percentage, mean and standard deviation and the significance level was p<0.05. IBM SPSS statistical 22 package program was used in the analysis of the data.

RESULTS

According to the data obtained, 65.2% of the patients with schizophrenia were male, 34.3% were single and 34.3% were high school graduates, and 53.4% were unemployed. The mean age of the patients was 44.93±12.66 (min:18, max:88) years and the mean age of the caregivers was 45.68±13.70 (min:17, max:75) years. The mean duration of caregiving to the patient of caregivers was 9.57±6.46 (min:1, max:38) years and the mean daily duration of caregiving was 5.97±2.58 (min:2, max:14) hours. The distributions of the patients with schizophrenia and primary caregivers included in the study are presented in Table 1.

The correlation between the caregiving burden levels of the caregivers of patients with schizophrenia determined based on their scores on the CBS and their family coherence levels determined based on the scores on the FSOC-S is presented in Table 2.

Table 1. Distribution of Schizophrenia Patients and Their Caregivers by Sociodemographic Characteristics (n=178)

Personal Information	**Caregiver**		**Patient**	
	n	%	n	%
Gender				
Female	126	70.8	62	34.8
Male	52	29.2	116	65.2
Education Status				
İlliterate	-	-	9	5.1
Literate	50	28.1	26	14.6
Primary Education	73	41	59	33.1
High School	46	25.8	61	34.3
Üniversity	9	5.1	23	12.9
Family Type				
Nuclear family	138	77.5		
Extended Family	33	18.6		
Broken Family	7	3.9		
Marital Status				
Married	106	59.6	51	28.7
Single	29	16.3	61	34.3
Widow	25	14	31	17.4
Divorced	18	10.1	35	19.7
Working Status				
Working	67	37.6	83	46.6
Not working	111	62.4	95	53.4
Monthly Income				
Good	22	12.4		
Middle	109	61.2		
Low	47	26.4		
Living place				
Province	49	27.5		
District	69	38.8		
Village	60	33.7		
Having a child				
Yes	127	71.3		
No	51	28.7		
Caregiver's Degree of Closeness to the Patient				
Spouse	47	26.4		
Son/daughter	40	22.5		
Mother	52	29.2		
Father	9	5.1		
Caregiver	14	7.9		
Other	16	9.0		
Assistant Person				
Yes	45	25.3		
No	133	74.7		

Accordingly, 69.1% (38.8±30.3) of the caregivers were found to have moderate to severe caregiving burdens. Of the primary caregivers, 87.6% (76.4±11.2) had moderate to high levels of family coherence. It was found that the caregiving burden of the caregivers of patients with schizophrenia included in the study changed based on their level of family coherence (p<0.001).

Table 2. Distribution of Schizophrenia Patients by Caregiver Burden of Caregiving and Family Cohesion Levels (n = 178)

	A Sense of Family İntegrity			
CBS Groups	**Low (12-38 point) n (%)**	**Middle (39-58 point) n (%)**	**High (59-88 point) n (%)**	**Total n (%)**
No Maintenance Burden (0- 20 point)	0 (0)	1 (0.7)	4 (20.0)	5 (2.8)
Light Maintenance Burden (21-40 point)	0 (0)	38 (27.9)	12 (60.0)	50 (28.1)
Medium Maintenance Burden (41-60 point)	3 (13.6)	64 (47.1)	2 (10.0)	69 (38.8)
High Maintenance Burden (61-88 point)	19 (86.4)	33 (24.3)	2 (10.0)	54 (30.3)
Total	22 (100)	136 (100)	20 (100)	178 (100)

χ^2=74.580 p<0.001 Dependence Rate:%54.3

The mean scores of the caregivers of patients with schizophrenia on the FSOC-S, CBS, and the “comprehensibility”, “manageability” and “significance” factors, according to their sociodemographic characteristics are given in Table 3. Considering the mean scores on the FSOC-S of the caregivers based on the sociodemographic characteristics of the patients with schizophrenia included in the study, it was seen that the differences in the mean scores on the FSOC-S (p=0.001) and its factors of “comprehensibility” (p=0.003), “manageability” (p=0.002), and “significance” (p=0.008) were only significant based on the patient’s education level.

The results of the correlation analysis performed between the scales used in the study and a selection of sociodemographic characteristics are given in Table 4. A negative moderate correlation was found between the total scores on the CBS and the FSOC-S (r=.535, p<0.001). A negative moderate correlation was found between the total score on the CBS and the “comprehensibility” (p<0.001) and “manageability”(p<0.001) factors of the FSOC-S, while there was a negative correlation with the “significance” (p<0.05) factor of the FSOC-S. Furthermore, a positive correlation was found between the total score on the CBS and patient care duration (p<0.05), patient’s age (p<0.05), and duration of illness (p<0.05) with a negative correlation for monthly income level (p<0.05) (Table 4).

A positive correlation was seen between the total score on the FSOC-S, its factors of “manageability” and “comprehensibility”, and the monthly average income of the caregivers (p<0.001). Negative significant correlations were found between patient care duration (p<0.05), patient’s age (p<0.05), duration of illness (p<0.001), and daily duration of caregiving (p<0.05) (Table 4). The equation of the correlation between the total scores of the caregivers of the patients with schizophrenia on the FSOC-S and CBS, and a selection of sociodemographic characteristics were determined using stepwise multiple regression analysis and is provided in Table 5.

While the monthly income level of the caregiver had a positive effect on the family coherence of the caregivers of the patients with schizophrenia, it was found that patient care duration had a negative effect (Table 5).

The patient’s age had a positive effect on the caregiving burden of the caregivers of schizophrenic patients while the monthly average income of the caregiver had a negative effect (Table 5).

DISCUSSION

Sense of coherence (SOC) is a key protective element for caregiver well-being, but research to date has mostly focused on the direct impact of SOC on the mental health of elderly and physically ill caregivers. This study aims to determine the caregivers' burden of care and the sense of family sense of coherence, the relationship between them, and the influencing factors for people who care for someone with a chronic mental illness like schizophrenia who needs long-term care. As a result of this study, it was found that primary caregivers with a high level of family coherence had lower levels of care burden.

Table 3. Comparison of Caregivers' Sociodemographic Characteristics of CBS, FCS-S, Comprehensibility, Manageability, Significance Scores (n = 178)

	n	FCS-S Intelligibility Mean+SD	FCS-S manageability Mean+SD	FCS-S Significance Mean+SD	FCS-S Mean+SD	CBS Mean+SD
Gender						
Female	126	16.50±4.03	20.75±5.89	11.44±3.02	48.70±10.52	49.79±15.40
Male	52	16.51±3.63	21.07±4.58	11.67±2.11	49.27±7.56	48.67±14.80
Test/ p value		t= -0.030/0.976	t= -0.354/0.724	t= -0.497/0.620	t= -0.355/0.723	t= 0.446/0.656
Education Status						
Literate	50	16.46±4.10	19.76±5.82 b	11.34±2.65	47.56±9.93 b	49.12±15.81
Primary Education	73	16.42±3.52	21.27±4.83 b	11.58±2.47	49.27±8.24 b	50.90±14.28
High School	46	16.13±4.08	20.46±5.81 b	11.33±3.24	47.91±10.70 b	48.80±15.22
University	9	19.33±4.61	25.44±5.88 a	12.89±3.48	57.67±11.55 a	43.11±19.29
Test /p		F=1.740/0.161	**F=3.042/0.030**	F=0.876/0.455	**F=3.042/0.030**	F=0.777/0.508
Family Type						
Nuclear family	138	16.70±3.91	20.74±5.75	11.67±2.78 a	49.11±9.96	50.43±14.60
Extended Family	33	15.85±3.82	21.52±4.07	11.45±2.33 a	48.82±7.26	45.85±15.54
Broken Family	7	15.71± 4.57	19.86± 7.34	8.71± 3.64 b	44.29± 14.99	47.43± 23.73
Test/ p value		F=0.781/0.459	F=0.377/0.687	**F=3.875/0.023**	F=0.816/0.444	F=1.282/0.280
Marital Status						
Married	106	16.84±4.03	21.38±5.38	11.82±2.55	50.04±9.73	47.65±15.18
Single	29	15.07±3.36	19.79±5.49	10.66±3.48	45.52±9.68	52.66±15.71
Widow	25	16.96±4.50	19.92±6.68	11.48±2.87	48.36±11.06	51.80±15.28
Divorced	18	16.22±2.71	20.72±4.73	11.11±2.59	48.06±6.86	51.78±13.89
Test/p value		F= 1.724/0.164	F= 0.912/0.436	F= 1.487/0.220	F= 1.741/0.160	F= 1.271/0.286
Monthly Income						
Good	22	18.05±5.21	24.82±6.00 b	13.36±2.79 a	56.23±12.46 b	40.68±15.86 b
Middle	109	16.41±3.57	20.79±5.10 b	11.40±2.62 b	48.61±8.53 b	50.59±14.82 a
Low	47	16.00±3.90	19.13±5.44 a	10.89±2.85 b	46.02±9.42 a	50.98±14.70 a
Test/p value		F= 2.152/0.119	**F= 8.640/0.001**	**F=6.783/0.002**	**F= 9.095/0.001**	**F= 4.364/0.014**
Working Status						
Working	67	16.21±3.96	22.28±4.99	11.30±2.56	49.79±8.89	47.96±15.43
Not working	111	16.68±3.90	19.98±5.68	11.64±2.91	48.31±10.21	50.38±15.05
Test/ p value		t= -0.785/0.434	**t=2.740/0.007**	t= -0.791/0.430	t=0.986/0.326	t= -1.031/0.304
Living place						
Province	49	16.31±4.17	20.94±6.35	12.32±2.70 a	49.57±10.80	49.33±15.83
District	69	16.42±3.73	21.43±4.95	11.41±2.89 ab	49.26±8.75	48.93±14.80
Village	60	16.77±3.96	20.10±5.45	10.97±2.62 b	47.83±9.98	50.20±15.35
Test/p value		F= 0.212/0.810	F= 0.944/0.391	**F= 3.386/0.036**	F= 0.520/0.595	F= 0.114/0.892
Having a child						
Yes	127	16.72±4.01	20.87±5.51	11.71±2.56	49.32±9.63	49.14±15.22
No	51	15.96±3.63	20.78±5.62	11.00±3.24	47.76±10.00	50.27±15.26
Test/ p value		t=1.178/0.240	t=0.098/0.922	t=1.558/0.121	t=0.972/0.332	t= -0.449/0.654
Caregiver's Degree of Closeness to the Patient						
Spouse	47	17.00±4.13	21.62±5.71	11.57±2.21	50.19±10.00	50.13±14.27
Son/daughter	40	16.05±3.73	20.28±6.14	10.93±3.34	47.25±10.77	50.58±16.85
Mother	52	16.88±4.04	20.48±5.79	12.02±2.89	49.38±10.32	47.52±16.12
Father	9	17.89±3.44	22.89±4.83	12.22±2.33	53.00±6.65	48.22±11.61
Caregiver	14	15.71±4.43	21.93±4.25	11.07±2.59	48.71±8.48	47.29±16.53
Other	16	14.88±2.68	19.13±3.28	11.13±2.80	45.13±4.88	49.69±11.32
Test/p value		F= 1.259/0.284	F= 0.976/0.434	F= 0.953/0.448	F= 1.230/0.297	F= 0.541/0.745
Assistant Person						
Yes	45	16.42±3.84	21.06±4.76	12.02±2.58	49.51±7.91	41.04±13.64
No	133	16.53±3.95	20.77±5.78	11.34±2.84	48.65±10.30	48.93±15.70
Test/p value		t= -0.165/0.869	t=0.306/0.760	t=1.428/0.155	t=0.514/0.608	t=0.805/0.422

Mean: Arithmetic Mean SD: Standard Deviation

Discussion of the Sociodemographic Variables of the Caregivers

This study determined that 70.8% of the caregivers of schizophrenic patients were women, 29.2% were mothers of their patients, and 26.4% were spouses. Considering a literature review on the caregivers of patients with schizophrenia, it is seen that the majority of caregivers are women and are also the parents of the patients (23-29). It was further determined in the review that of the parents, mothers were more likely to be caregivers (30). The traditional caregiving role of women may be effective in this. In this regard, the results of the present study are similar to relevant studies.

In the present study, it was determined that most caregivers were primary school graduates (41.0%), married (59.6%), unemployed (62.4%), had middle income (61.2%), a nuclear family type (77.5%), and 74.75% of them had no one to help with their caregiving duties. In a study conducted on the caregivers of patients with schizophrenia, 84.7% of the caregivers were married, 56.9% had a primary

Table 4. The Relationship Between Caregivers of Schizophrenia Patients and Some Socio-demographic Characteristics of Schizophrenia Patients and CBS and FCS-S Scale Scores

		FCS-S	İ	M	S	CGA	AMI	PCT	PA	DI	DHT
Care burden scale (CBS)	r-value	- 0.535	- 0.429	- 0.526	- 0.221	0.038	- 0.213	0.171	0.211	0.170	0.140
	p-value	**<0.001**	**<0.001**	**<0.001**	**0.003**	**0.618**	**0.004**	**0.022**	**0.005**	**0.023**	0.062
FCS-S	r-value		0.795	0.866	0.660	0.008	0.314	- 0.181	- 0.187	- 0.266	- 0.214
	p-value		**<0.001**	**<0.001**	**<0.001**	0.920	**<0.001**	**0.016**	**0.013**	**<0.001**	**0.004**
İntelligibility (İ)	r-value			0.481	0.416	0.041	0.159	- 0.150	- 0.159	- 0.247	- 0.090
	p-value			**<0.001**	**<0.001**	0.583	**0.034**	**0.045**	**0.034**	**0.001**	0.234
Manageability (M)	r-value				0.365	- 0.064	0.269	- 0.133	- 0.154	- 0.178	- 0.227
	p-value				**<0.001**	0.396	**<0.001**	0.077	**0.040**	**0.018**	**0.002**
Significance (S)	r-value					0.095	0.340	- 0.157	- 0.123	- 0.228	- 0.169
	p-value					0.205	**<0.001**	**0.036**	0.103	**0.002**	**0.024**
Caregiver Age (CGA)	r-value						0.015	0.332	- 0.122	- 0.060	0.041
	p-value						0.841	<**0.001**	0.105	0.428	0.582
Average monthly income (AMI)	r-value							- 0.019	- 0.044	- 0.070	- 0.254
	p-value							0.806	0.563	0.356	**0.001**
Patient care time (PCT)	r-value								0.355	0.511	0.104
	p-value								**<0.001**	**<0.001**	0.167
Patient Age (PA)	r-value									0.724	0.340
	p-value									**<0.001**	**<0.001**
Duration of illness (Dİ)	r-value										0.367
	p-value										<**0.001**

r: Pearson correlation coefficient; p-value: significance level, DHT: shows the daily attention time

school degree and lower education level, 52.8% were employed, and 54.2% received support from other relatives regarding patient care (31). It was found in another study that 39.2% of the caregivers were primary school graduates, 60.8% were unemployed, 41.2% had income equal to expense, and 25.5% lived with their spouse and children (25). Furthermore, another study determined that most caregivers were high school graduates (45.3%), married (70.7%), and had professional occupations (35.1%) (32). Findings from both the literature and this study show that unemployment, low level of education, and the absence of anyone to help care negatively affect the caregiving process.

The mean age of the caregivers was 45.68±13.70 years, the mean duration of patient care was 9.57±6.46 (1-38) years and the mean daily duration of caregiving was 5.97±2.58 (2-14) hours in this study. It was determined that caregivers are generally middle-aged adults (50.7±14.2)18, (53.30±18.7) (34), (52.8±13.9) (35), (62.4% were aged 50 and older) (33). Considering the duration of caregiving, it was determined that caregivers provided care to patients for approximately 8.5±0.5 years (34), 5.2±1.4 years (34), 13.1±11.0 years (32). Similar results were reported in relevant studies in the literature.

Discussion of the Results Related to Caregiving Burden (CBS)

The mean score on the CBS of the caregivers for schizophrenic patients was 49.47±15.20 (moderate) in this study. Additionally, it was determined that 69.1% (38.8±30.3) of the caregivers included in this study experienced moderate to severe caregiving burdens. In studies conducted on the caregivers of patients with schizophrenia using the "Zarit Caregiving Burden Scale", it was found that the mean scores were at the levels of 64.78±14.23 (31) and 51.73±18.23 (34) and that 7.6% of the caregivers experienced mild caregiving burdens, 23.5% experienced mild-moderate, 41.85 experienced moderate-severe, and 27.1% experienced severe caregiving burdens (35). The results obtained show that the caregivers of patients with schizophrenia have a caregiving score higher than the average.

In this study, it was found that the mean score on the CBS of the caregivers with a good income (income greater than expenses) level was lower and that the mean scores on the CBS were statistically significant in terms of the monthly income level (p<0.05). Moreover, it was determined that the total mean scores on the FSOC-S had a negative significant correlation with the monthly average income level

Table 5. Stepwise Multiple Regression Analysis Results

Variables	B	Std. Error	T	*p-value*	R^2	*F-value*	*p-value*
Dependent variable: Sense of Family Cohesion							
Constant	41.077	2.660	15.442	<0.001			
Average monthly Income	0.004	0.001	4.405	<0.001	0.129	12.993	**<0.001**
Care time for the patient	-0.264	0.106	-2.483	0.014			
Dependent Variable: Maintenance Burden							
Constant	49.111	5.634	8.718	<0.001			
Age of the patient	0.243	0.087	2.800	0.006	0.086	8.261	**<0.001**
Average monthly Income	-0.004	0.002	-2.822	0.005			

(p<0.05). Relevant studies in the literature found that economic state is conversely correlated to caregiving burden (23,26,35,36). Results obtained in this study and the literature indicate that the low economic level of caregivers of patients with schizophrenia negatively affects their perceived caregiving burdens. In this study, it was found that the mean scores on the CBS of patients with schizophrenia included in the study were only significant in terms of the patient's education level (p<0.05). In a study conducted with 72 schizophrenic patients and patient relatives to determine the caregivers' perception of burden, it was determined that low patient education levels (primary school and lower education) negatively affect the caregiver's perception of objective burden (observability and verifiability of family burdens, such as patient's disturbing behavior or economic difficulties caused by the disorder, limitations in daily life, negative effects on the body and mental health of family members) (31). This finding is similar to the results of the present study.

In this study, a negative "moderate" correlation was found between the total scores on the CBS and the FSOC-S (r=.535, p<0.001). Additionally, it was found that the caregiving burden of caregivers of schizophrenic patients included in the study changed based on their level of family coherence (p<0.001). A similar situation also applies to the CBS total score and the factors of the FSOC-S (comprehensibility, manageability, significance). A negative "moderate" correlation was found between the total score on the CBS and the "comprehensibility" (p<0.001) and "manageability" (p<0.001) factors of the FSOC-S while there was a correlation with the "significance" factor (p<0.05). The family environment is of great importance for patients with schizophrenia. It is stated that the presence of strong family bonds and the social support role of the family in developing countries reduce the perceived caregiving burden (37). In a study conducted with 32 patients and caregivers, it was determined that the presence of the inner conflicts of families negatively affected the progress of the disease (38). In another study, family functions of patients with schizophrenia were examined and were determined to be unhealthy and distorted; thus, these families should be informed about the relationships within the family (39). Family coherence-related results obtained in this study and the studies in the literature show that the caregiving burden decreases as family coherence and factors affecting family coherence improve.

In this study, there were positive significant correlations between the total score on the CBS of the caregivers of patients with schizophrenia and patient care duration (p<0.05) and duration of illness (p<0.05). In a study conducted with 115 patients with schizophrenia, it was found that as the duration of the illness prolonged, the frustration of caregiving relatives and deterioration in family functionality increased, which increased the caregiver's sense of burden (40). In a study conducted with the relatives of patients with schizophrenia, it was determined that as the duration caregiver spends with the patient increased, the caregiver's sense of burden also increased (41). These results indicate that increasing the duration of caregiving increases the caregiving burden.

In this study, there were positive significant correlations between the total score on the CBS of the caregivers of patients with schizophrenia and the patient's age (p<0.05) and duration of illness. It was determined that patients' age had a positive effect on the caregiving burden of the caregivers of patients with schizophrenia. In other words, the caregiving score increases as the patient's age increases. In a study conducted with 50 patients with schizophrenia and patient relatives, it was found that as the patient's age increased, the caregiver's sense of burden increased (42). Another study conducted with the caregivers of 96 patients with schizophrenia concluded that the caregiving burdens of young caregivers were higher (43). Similarly, in a study conducted with 99 Japanese and 92 Korean caregivers, it was determined that the younger age of patients increased the caregiver's sense of burden (44). In line with this information, relevant studies in the literature have different results.

Discussion of Results Related to Family Coherence

In this study, the total score on the FSOC-S of the caregivers of patients with schizophrenia was 48.87±9.74 (moderate). Furthermore, 87.6% (76.4+11.2) of the caregivers included in this study had a moderate to high level of family coherence. In a project study on the subject, it was determined that Turkish participants perceived parental control as parental acceptance and considered parental warmth and accepted it as normal, whereas in German society, low parental control was perceived as high parental acceptance. It has also been determined that intergenerational dependence is high in rural Turks and Israeli and Palestinian Arabs, and intergenerational dependence is low in Germans (16). The family functionality of the caregiver assuming the care of the patient in the family is significantly affected in the process of reintroducing patients with schizophrenia to society and increasing their functionality (45). Thus, it was found that caregivers with a high level of family coherence felt the caregiving burden less.

In this study, it was also found that the mean score on the FSOC-S of the caregivers of patients with schizophrenia was statistically significant in terms of the caregiver's education level (p<0.05), patient's education level (p<0.001), and family income level (p<0.001). In a study conducted with the caregivers of schizophrenic patients in their 50s, 60s, and 70s, it was found that there was a positive significant correlation between the education level and sense of coherence of caregivers, and that quality of life and sense of coherence increased as the educational level of the patients increased (8). The literature indicates that treatment of patients with schizophrenia is quite costly for the family (a more difficult economic situation as the patient cannot work due to the disease), which in turn causes more stress in the family. Since the family functionality of a family with a low-income level is affected negatively, the sense of coherence, thus, gets affected negatively (8, 46). In a relevant study, it was found that there was a correlation between the patient's education level and family functionality and that as the patient's education level increased, the patient's rate of health in family functionality areas such as roles, providing the needed care, behavior control, and general functions became significant (40). In this regard, it can be stated that educated patients and caregivers are somewhat more tolerant and perceive their family functions more healthily.

In this study, it was also found that the mean scores of the caregivers of patients with schizophrenia on the FSOC-S factor "manageability" were statistically significant in terms of the caregiver's education level (p<0.05), family income level (p<0.001), and employment status (p<0.01). "Manageability" is the sense of availability of sufficient internal and external sources to cope with the situation caused by the disease. It is stated in the literature that as the educational level increases, caregivers better understand the disease, display a more positive approach to the patient, and are more aware of social sources to be used (42,46). In this regard, families with higher education levels tend to research schizophrenia-related information, treatment methods, factors causing the disorder more than those with lower education levels and advocate more for their patients (46). Moreover, working individuals with a high level of education can more easily access and use resources; thus, can more easily cope with the disorder and negativities caused by the disorder.

In this study, it was also found that the mean scores of the caregivers of patients with schizophrenia on the FSOC-S factor "significance" were statistically significant in terms of the caregiver's family type (p<0.05), family income level (p<0.05), and place of residence (p<0.05). The significance factor can be defined as entering a process of interpretation regarding the situation experienced and focusing on coping with the disturbing situation. When individuals accept, understand, and manage the situation, then they can reintegrate their daily life. In a study examining whether there was a difference in the sense of coherence, perception of health status, and the use of coping mechanisms of individuals living in rural and urban areas, it was found that the availability of psychosocial resources in urban and rural regions are important in the formation of a powerful sense of coherence (9).

In this study, there was a positive significant correlation between the total score on the FSOC-S and the caregivers' monthly average income ($p<0.001$) while a negative significant correlation was found between the patient care duration ($p<0.05$), patient's age ($p<0.05$), duration of illness ($p<0.01$), and daily duration of caregiving ($p<0.05$). In a study conducted with the families of 137 patients with schizophrenia, it was found that family functionality was better in family members with a high level of "family coherence" (45). In a study conducted with 34 caregivers of patients with schizophrenia, it was found that there was a significant correlation between the duration of illness and caregivers' education level and sense of coherence ($p<0.05$) and that the quality of life for caregivers with a high-level sense of coherence was higher (8). Accordingly, as the monthly average income increases, the total score on the FSOC-S increases. The mean score on the FSOC-S decreases as the patient care duration, patient's age, duration of illness, and daily duration of caregiving increase.

In this study, a positive significant correlation was found between the FSOC-S factor of "comprehensibility" and the monthly average income ($p<0.05$), and a negative significant correlation was found between patient care duration ($p<0.05$) and duration of illness ($p<0.05$). The fact that patients with schizophrenia and their caregivers research the disorder and treatment methods increases their level of knowledge about the disease and treatment, which in turn increases adherence to drugs, the family's ability to adapt to the situation more quickly, and the functionality of the patients (23). As patient care duration increases and the caregiver deals with the patient for a long time, the situation gets more complex, and the level of comprehensibility decreases for the patient and patient relatives. The data obtained show that it is important for caregivers to understand the disorder well. Thus, it can be stated that increased comprehensibility both for patients and caregivers decreases the caregiving burden.

In this study, a positive significant correlation was found between the FSOC-S factor of "manageability" and the monthly average income ($p<0.001$), and a negative significant correlation was found between the patient's age ($p<0.05$), the duration of illness ($p<0.05$) and the daily duration of caregiving ($p<0.05$). A positive significant correlation was found between the FSOC-S factor of "significance" and the monthly average income ($p<0.001$), and a negative significant correlation was found between the patient care duration ($p<0.05$), the duration of illness ($p<0.05$), and the daily duration of caregiving ($p<0.05$). Accordingly, as the monthly average income increases, the total scores on the "manageability" and "significance" increase and they decrease as the patient's age, duration of illness, and daily duration of caregiving increase.

In this study, while the monthly income level of the caregiver had a positive effect on the family coherence of the caregivers of the patients with schizophrenia, it was found that patient care duration had a negative effect. In other words, as the monthly average income of the caregiver increases, their family coherence score increases but the score decreases as patient care duration increases. As the monthly average income increases, the number of stressors in the family's life will decrease and they can more easily access social opportunities. In a study conducted with the caregivers of patients with schizophrenia, it was determined that the duration of schizophrenia affects the sense of coherence (8). The studies in the literature report that families with a high-level sense of coherence can more easily manage the stressful situations they face. Additionally, families with a high-level sense of coherence use their resources better, manage stressful situations better, and reinforce the family bonds (47). These results indicate that increasing patient care duration and low-income level negatively affect the sense of coherence of caregivers.

CONCLUSIONS

In this study conducted to determine the caregiving burden and family coherence of caregivers of patients with schizophrenia and to examine their correlations, it was determined that the caregivers experienced moderate and severe caregiving burden (CBS) and had moderate and high-level family coherence (FSOC-S). For this reason, health professionals should plan effective psychological interventions aimed at increasing family unity (increase the meaning, intelligibility, and manageability of the disease) to reduce the caregiver's care burden. In addition, the state administration should support families psychologically, socially, and economically, in connection with the understanding of treating individuals with mental disorders in the community. Since the increase in income level reduces the burden of care, families should be supported economically by activating social support systems. In addition, primary caregivers of schizophrenic patients should be supported by providing training on social media platforms to improve their knowledge and skills in the care of schizophrenic individuals.

Also, it is important to increase the education levels of caregivers of patients with schizophrenia and improve their income levels. Psychiatric nurses must make interventions (psychoeducation, therapy…) to improve the “comprehensibility”, “manageability” and “significance” dimensions of schizophrenia to reduce the caregiving burden of caregivers of patients with schizophrenia. Additionally, it was determined that it is important to activate psychological, social, and economic resources that will reduce the caregiving burden of caregivers, reduce the caregivers’ patient care duration, or include people to aid in the caregiving process. In the future, psychiatric nurses are recommended to plan intervention (psychoeducation, therapy…) studies that can increase the family coherence of schizophrenia patients and reduce the care burden.

Limitations

One of our study's drawbacks is that the results are self-reported. The limited sample size and cross-sectional design, which failed to address causality, are other drawbacks of this study. Another problem is that it exclusively relies on the reporting of main caregivers.

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