The Effect of Mindfulness Level on Stress Perception in Caregivers of People with Schizophrenia

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Abstract

Aim: This research was conducted to examine the effect of mindfulness levels on stress perception in caregivers of people with schizophrenia.

Method: The population of the cross-sectional and descriptive study was the caregivers of people with schizophrenia registered at the Community Mental Health Centre affiliated with a Training and Research Hospital in Istanbul. The sample included 114 caregivers of people with schizophrenia who volunteered to participate and met the inclusion criteria. Data was collected using a Personal Information Form, Mindful Attention Awareness Scale and Perceived Stress Scale and analysed using SPSS software package.

Results: The average age of the caregivers who participated in the research was 48.90±13.39 years, 63.2% were women, 28.1% were mothers as a degree of closeness to the patient, 64% had an income less than their expenses, 40.4% had a caregiving period between 10-19 years, 56.1%. It was determined that 100,000 of them had a support person in their patient care, and 84.2% of them had other person(s) to whom they provided care. The total mean score of the caregivers of people with schizophrenia from the Mindful Attention Awareness Scale was 53.40±15.15, and their mean total score from the Perceived Stress Scale was 31.26±7.90. A statistically significant negative relationship was detected between the Mindful Attention Awareness Scale and the Perceived Stress Scale sub-dimensions of perceived lack of self-efficacy, perceived helplessness and Perceived Stress Scale-Total scores ($p<0.001$), indicating that perceived lack of self-efficacy, perceived helplessness, and perceived stress increased as mindfulness decreased in caregivers of people with schizophrenia.

Conclusion: The research concluded that the caregivers of people with schizophrenia had moderate mindfulness and perceived stress levels. As mindfulness increases, perceived stress decreases. Guided by this study's findings, mental health nurses can play an active role in improving caregivers' mental health, increasing their awareness levels, using more constructive coping strategies in stressful situations, and developing healthy behaviours.

Keywords: Mindfulness, stress, caregiver, schizophrenia.

Şizofreni Tanılı Bireylerin Bakım Vericilerinde Bilinçli Farkındalık Düzeyinin Stres Algısı Üzerine Etkisi

Öz

Amaç: Bu araştırma, şizofreni tanılı bireylerin bakım vericilerinde bilinçli farkındalık düzeyinin stres algısı üzerine etkisini incelemek amacıyla gerçekleştirilmiştir.

Yöntem: Kesitsel ve tanımlayıcı tipte olan araştırmanın evrenini İstanbul ilinde bir Eğitim ve Araştırma Hastanesine bağlı Toplum Ruh Sağlığı Merkezi'ne kayıtlı şizofreni tanılı bireylerin bakım vericileri; örneklemini ise araştırmaya katılmaya gönüllü olan ve dahil edilme kriterlerini karşılayan 114 şizofreni tanılı

Özgün Araştırma Makalesi (Original Research Article)
Geliş / Received: 12.11.2023 & **Kabul / Accepted:** 11.11.2024
DOI: https://doi.org/10.38079/igusabder.1389648
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ETHICAL STATEMENT: Ethics committee approval from the Haliç University Non-Interventional Clinical Research Ethics Committee (dated 25.05.2022 and number 89) and written permission from the relevant institution (dated 28.06.2022 and number 636) were obtained for the research.

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bireyin bakım vericisi oluşturmuştur. Veriler; Kişisel Bilgi Formu, Bilinçli Farkındalık Ölçeği ve Algılanan Stres Ölçeği kullanılarak toplanmıştır. Elde edilen veriler SPSS adlı paket program kullanılarak analiz edilmiştir.

Bulgular: Araştırmaya katılan bakım vericilerin yaş ortalamalarının 48,90±13,39 yıl, % 63,2'sinin kadın, %28,1'nin hastaya yakınlık derecesi olarak annesi, %64'ünün gelirinin giderinden az, %40,4'ünün bakım verme süresinin 10-19 yıl arası, %56,1'inin hasta bakımında destekçisinin olduğu, %84,2'sinin bakım verdiği başka kişi/kişiler olduğu saptanmıştır. Şizofreni tanılı bireylerin bakım vericilerinin Bilinçli Farkındalık Ölçeği toplam puan ortalaması 53,40±15,15; Algılanan Stres Ölçeği toplam puan ortalaması 31,26±7,90 olarak belirlenmiştir. Bilinçli Farkındalık Ölçeği ile Algılanan Stres Ölçeği alt boyutlarından yetersiz özyeterlik, stres/rahatsızlık algısı ve Algılanan Stres Ölçeği-Toplam puanları arasında negatif yönde istatistiksel olarak anlamlı ilişki tespit edilmiştir ($p<0,001$). Buna göre şizofreni tanılı bireylerin bakım vericilerinde bilinçli farkındalık azaldıkça, yetersiz özyeterlik, stres/rahatsızlık algısı ve algılanan stres düzeyinin arttığı tespit edilmiştir.

Sonuç: Araştırma sonunda şizofreni tanılı bireylerin bakım vericilerinin bilinçli farkındalık ve algılanan stres düzeylerinin orta düzeyde olduğu sonucuna ulaşmıştır. Bilinçli farkındalık arttıkça algılanan stres azalmaktadır. Bu çalışmanın bulguları rehberliğinde ruh sağlığı hemşirelerinin, bakım vericilerin ruhsal sağlığının geliştirilmesi, farkındalık düzeylerinin yükseltilmesi, stresli durumlarda daha yapıcı başa çıkma stratejileri kullanabilmeleri ve sağlıklı davranışlar geliştirebilmeleri için aktif rol oynayabileceği düşünülmektedir.

Anahtar Sözcükler: Bilinçli farkındalık, stres, bakım verici, şizofreni.

Introduction

Schizophrenia causes significant disability, requires prolonged and sustained care and treatment, and dramatically affects the lives of the patients and their families[1]. Schizophrenia patients need care and support to maintain their daily living activities[2], and this support is usually provided by first-degree relatives[3,4]. Caregivers carry out their care responsibilities mainly in the home environment. This mandates changes in their life routines, causing intense stress[2,4,5]. Diverse tasks in caregiving roles, related disruptions, prolonged and constant disease processes, and loss of social, emotional and economic status are some stressors that caregivers face[4,6].

Perceived stress is defined as the individuality of people's perspective on the event when they encounter stressful situations, how they assess it, their impact on them, and their reactions[7]. With mindfulness practices, individuals can rework their perspective and approach without avoiding challenging situations that create stress for them[8,9]. Perceived stress can be reduced if what individuals think and feel in stressful situations can be recognised with a compassionate attitude and without judgment[10].

Although many studies have been conducted in Turkey on stress levels, stress management, care burden in caregivers of people with schizophrenia and the relationship between mindfulness level and stress in various groups other than caregivers, no study could be found examining the effect of mindfulness level on caregivers' perception of stress.

Material and Methods

Aim and Type of the Study

This cross-sectional and descriptive study examined the effect of mindfulness levels on perceived stress in caregivers of people with schizophrenia.

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Population and Sample

The population consisted of caregivers (N: 218) of people with schizophrenia registered at the Community Mental Health Centre affiliated with a training and research hospital in Istanbul, where the study was conducted between 01 June 2022 and 01 June 2023. Data collection was completed with 114 caregivers who met the inclusion criteria.

Inclusion and Exclusion Criteria

In the literature, a caregiver is described as a family member living with the patient for more than a year, supports their daily life activities, and is primarily involved in their care and follow-up[11]. Accordingly, the following individuals were included in the study: Caregivers over the age of 18 with the patient they care for diagnosed with schizophrenia according to the DSM V classification at least one year ago, living in the same house with a person with schizophrenia for at least one year, directly responsible for the treatment and care of the patient, and willing to communicate and cooperate. Caregivers with any condition that may prevent them from participating in the study were excluded.

Data Collection Tools

Personal Information Form: is a 22-item form questioning participants' details developed by the researchers based on information from previous studies[5,12].

Mindful Attention Awareness Scale (MAAS): is a 15-item Likert-type scale developed by Brown and Ryan (2003). Turkish adaptation was made by Özyeşil et al. in 2011. High scores indicate a high level of mindfulness. The Cronbach's alpha coefficient of the Turkish scale was reported as 0.80[8] and found as 0.91 in this study.

Perceived Stress Scale (PSS): is a five-point Likert-type scale containing 14 items developed by Cohen et al. (1983). The scale was adapted to Turkish by Eskin et al. (2013)[7,13]. Higher scores indicate higher levels of perceived stress. The scale has two sub-dimensions: "perceived lack of self-efficacy" and "perceived helplessness". Cronbach's Alpha coefficient of the Turkish scale was reported as 0.84[13]. In this study, Cronbach's Alpha coefficient was found to be 0.85 for perceived lack of self-efficacy, 0.78 for perceived helplessness, and 0.86 for the total score.

Ethical Considerations

Ethics committee approval from the Haliç University Non-Interventional Clinical Research Ethics Committee (dated 25.05.2022 and number 89) and written permission from the relevant institution (dated 28.06.2022 and number 636) was obtained for the research. Caregivers meeting the inclusion criteria and volunteering to participate were informed about the purpose and process of the study, and their verbal and written consent was obtained. The data were collected by the researchers at the community mental health centre using the face-to-face interview technique. The research was conducted in accordance with the Declaration of Helsinki.

Evaluation of the Data

The data obtained in the study was analysed using the SPSS (IBM SPSS Statistics 27) software package. Descriptive statistics and frequency tables, Independent Sample-t, ANOVA, Tukey, Mann-Whitney U, Kruskal-Wallis H, Bonferroni and Spearman

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correlation coefficient were used to evaluate the data. p values <0.05 were accepted as statistically significant.

Results

Table 1. Distribution of caregivers' socio-demographic findings (n=114)

Variable (n=114)		**n**	**%**
Age group $\bar{X} \pm$ SD→48.90±13.39 (years)	≤40	27	23.7
	40-49	23	20.2
	50-59	29	25.4
	≥60	35	30.7
Gender	Female	72	63.2
	Male	42	36.8
Degree of relationship	Mother	32	28.1
	Father	11	9.6
	Sibling	29	25.4
	Spouse	27	23.7
	Child	15	13.2
Education	Not literate	1	0.9
	Literate only	3	2.6
	Primary education	62	54.4
	High school	30	26.3
	Associate degree	8	7.0
	Bachelor's degree and above	10	8.8
Monthly income	Income is less than expenses	73	64.0
	Income equals expenses	35	30.7
	Income is more than expenses	6	5.3
Employment	Yes	43	37.7
	No	46	40.4
	Used to work but quitted	25	21.9
Chronic conditions	Yes	53	46.5
	No	61	53.5
Caregiving duration $\bar{X} \pm$ SD→12.02±8.50 (years)]	<10	46	40.4
	10-19	46	40.4
	≥20	22	19.2
Has a supporter in patient care	Yes	64	56.1
	No	50	43.9
Another person(s) being cared for	Yes	18	15.8
	No	96	84.2
Stressors *	Housework	64	56.1
	Financial responsibilities	89	78.1

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	Concern for the future	77	67.5
	Taking care of children	29	25.4
	Decision making responsibility	56	49.1
	Living with a person with a psychiatric disorder	101	88.6
	Social pressure	38	33.3
	Inability to spare time for social activities	75	65.8
	Lack of social support	19	16.7

* More than one option was selected, and percentages were determined based on the total number of samples on a row basis.

The mean MAAS total score of caregivers of people with schizophrenia was 53.40±15.15, and their mean PSS total score was 31.26±7.90. Their mean scores from the subscales were 17.21±4.27 for perceived helplessness and 14.05±4.78 for perceived lack of self-efficacy (Table 2).

Table 2. Distribution of findings from the scales

Scales	**Mean**	**S.D.**	**Median**	**Min.**	**Max.**
Mindful Attention Awareness Scale	53.40	15.15	51.0	26.0	86.0
Perceived Stress Scale					
Perceived lack of self-efficacy	14.05	4.78	15.0	1.0	24.0
Perceived helplessness	17.21	4.27	17.5	6.0	26.0
PSS-Total	31.26	7.90	33.0	15.0	46.0

S.D.: Standard Deviation, Min: Minimum, Max: Maximum

The MAAS score was higher in men (60.52±15.36), those who are the children of the patient (61.07±16.27), those with a bachelor's degree or higher (64.50±14.38), and those who were previously employed but quitted their jobs (57.88±15.33). PSS-total scores were statistically significantly higher in those who were the mother of the patient (36.63±4.85), those who graduated from primary education or lower (33.71±7.06) and those whose income level was less than their expenses (33.30±7.59). ($p<0.05$) (Table 3).

Table 3. Comparison of MAAS and PSS findings of the caregivers

		MAAS		**PSS**					
				Perceived lack of self-efficacy		**Perceived helplessness**		**PSS – Total**	
Variable	**n**	**X±SD**	**Median [IQR]**	**X±SD**	**Median [IQR]**	**X±SD**	**Median [IQR]**	**X±SD**	**Median [IQR]**
Gender									
Female	72	49.25±13.46	44.0[21.0]	15.13±4.17	16.0 [5.0]	18.40±3.99	19.0[4.0]	33.52±6.97	35.00[7.5]
Male	42	60.52±15.36	65.0[25.3]	12.21±5.24	12.0 [7.3]	15.17±3.96	16.0[4.5]	27.38±7.94	25.5[13.5]
Statistical analysis Probability		Z=-3.887 **p<0.001**		Z=-3.250 **p<0.001**		Z=-4.156 **p<0.001**		Z=-3.729 **p<0.001**	
Degree of relationship									
Mother (1)	32	45.94±14.01	42.5[14.8]	17.22±2.48	18.0[3.0]	19.41±3.30	19.0[4.5]	36.63±4.85	36.5[6.5]
Father (2)	11	57.18±14.39	64.0[27.0	14.82±5.49	15.0[10.0]	15.36±2.97	16.0[5.0]	30.18±7.72	31.0[15.0]
Sibling (3)	29	57.06±12.39	60.0[22.0]	12.28±5.32	13.0 [8.5]	16.03±3.64	17.0[5.0]	28.31±7.92	29.0[13.0]
Spouse (4)	27	52.51±15.84	51.0[26.0]	13.48±4.84	13.0 [9.0]	17.52±5.27	18.0[9.0]	31.00±8.88	33.0[16.0]
Child (5)	15	61.07±16.27	60.0[32.0]	11.20±3.17	11.0 [4.0]	15.60±4.32	16.0[4.0]	26.80±5.57	27.0 [9.0]
Statistical analysis Probability Difference		χ^2=14.661 **p=0.005 [1-3,5]**		F=7.356 **p<0.001 [1-3,4,5]**		F=4.177 **p=0.003 [1-2,3,5]**		χ^2=26.158 **p<0.001 [1-2,3,4,5]**	

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Education									
Primary/below (1)	66	48.65±13.99	44.0[22.0]	15.45±4.27	16.0 [6.0]	18.26±4.04	18.0[5.0]	33.71±7.06	35.0[8.5]
High school (2)	30	59.17±14.52	66.5[26.3]	12.17±5.34	12.5 [8.5]	14.03±3.62	14.0[5.0]	28.20±8.08	27.5[15.0]
Associate degree(3)	8	57.13±13.72	57.5[23.8]	13.50±3.70	13.0 [6.5]	16.50±3.96	16.0[7.3]	26.00±6.57	24.5[11.3]
Bachelor's degree and higher (4)	10	64.50±14.38	63.0[19.8]	13.20±4.24	11.5 [5.0]	16.00±5.92	17.5[9.3]	28.50±8.40	29.5[15.0]
Statistical analysis Probability		χ^2=16.114 **p=0.001[1-2,4]**		F=5.043 **p=0.003[1-2]**		χ^2=9.602 **p=0.022[1-2]**		χ^2=14.526 **p=0.002[1-2,3]**	
Monthly income									
Income is less than expenses	73	51.54±15.33	46.0[28.0]	15.14±4.89	16.0 [6.0]	18.16±3.89	18.0[5.0]	33.30±7.59	35.0 [8.0]
Income equals to/ is more than expenses	41	56.71±14.39	59.0[23.5]	12.12±3.95	12.0 [6.0]	15.51±4.42	16.0[7.0]	27.63±7.16	27.0[11.5]
Statistical analysis Probability		Z=-1.888 p=0.059		Z=-3.628 **p<0.001**		t=3.324 **p=0.001**		Z=-3.802 **p<0.001**	
Employment									
Yes (1)	43	54.86±15.74	51.0[28.0]	13.21±4.53	14.0 [7.0]	17.07±3.90	17.0[5.0]	30.28±7.65	31.0[13.0]
No (2)	46	49.61±13.83	44.0[22.8]	15.45±4.37	16.0 [6.3]	17.61±4.13	18.0[6.3]	33.06±7.79	35.0[10.8]
Used to work but quitted (3)	25	57.88±15.33	60.0[25.0]	12.92±5.43	13.0 [7.0]	16.72±5.14	16.0[7.5]	29.64±8.15	31.0[15.5]
Statistical analysis Probability		χ^2=6.033 **p=0.049 [2-3]**		χ^2=7.773 **p=0.021 [2-1,3]**		χ^2=1.757 p=0.415		χ^2=4.743 p=0.093	

When compared according to chronic disease presence, MAAS scores (56.67±15.67) were statistically significantly higher in those without chronic diseases, while the perceived lack of self-efficacy (15.28±4.64), perceived helplessness (18.21±4.18), and PSS-total scores (33.49±7.53) were significantly higher in those with chronic diseases (p<0.05). Those who have cared for their patients for 10-19 years had statistically significantly higher perception lack of self-efficacy scores (15.79±4.01) (p<0.05). Those who had a supporter in patient care had statistically significantly higher MAAS scores (56.32±15.36) (p<0.05). Those who had another person(s) to care for had statistically significantly higher perceived helplessness scores (18.56±2.38) (p<0.05) (Table 4).

Table 4. Comparison of MAAS and PSS Findings According to Patient-Caregiver Information

		MAAS		**PSS**					
				Perceived lack of self-efficacy		**Perceived helplessness**		**PSS – Total**	
Variable	**n**	**X±SD**	**Median [IQR]**	**X±SD**	**Median [IQR]**	**X±SD**	**Median [IQR]**	**X±SD**	**Median [IQR]**
Chronic disease in the caregiver									
Yes	53	49.64±13.71	45.0[22.5]	15.28±4.64	16.0[7.5]	18.21±4.18	19.0[5.0]	33.49±7.53	35.0[11.0]
No	61	56.67±15.67	55.0[25.5]	12.98±4.68	14.0[7.0]	16.34±4.18	17.0[5.0]	29.33±7.75	31.0[14.0]
Statistical analysis* Probability		Z=-2.570 **p=0.010**		Z=-2.491 **p=0.013**		Z=-2.295 **p=0.022**		Z=-2.881 **p=0.004**	
Caregiving duration									
<10 years (1)	46	54.52±15.08	56.0[30.0]	13.09±5.07	13.0[8.5]	16.72±4.23	17.0[6.0]	29.80±8.12	32.0[14.3]
10-19 years (2)	46	53.76±16.98	49.5[27.5]	15.79±4.01	16.0[5.0]	17.43±4.41	18.0[5.0]	33.17±6.79	34.5[9.8]
≥20 years (3)	22	50.32±10.77	48.0[17.0]	12.55±4.79	12.0[6.8]	17.77±4.09	17.0[6.8]	30.32±7.09	31.5[10.3]
Statistical analysis* Probability Difference		χ^2=0.679 p=0.712		F=5.257 **p=0.007 [2-1,3]**		F=0.557 p=0.574		χ^2=4.047 p=0.132	
Supporter in caregiving									
Yes	64	56.32±15.36	59.5[26.8]	13.41±4.67	14.0[6.8]	16.58±4.30	17.0[5.8]	29.98±7.85	31.5[14.0]
No	50	49.66±14.13	44.0[20.8]	14.88±4.85	15.0[6.3]	18.02±4.12	18.0[4.5]	32.90±7.72	35.0 [9.3]

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Statistical analysis* Probability		Z=-2.163 **p=0.031**		Z=-1.923 p=0.054		Z=-1.837 p=0.066		Z=-1.901 p=0.057	
Another person the caregiver cares for									
Yes	18	51.33±14.93	48.0[25.3]	14.44±4.65	15.5[6.3]	18.56±2.38	18.0[3.0]	33.00±5.68	34.0 [4.5]
No	96	53.79±15.32	52.5[26.8]	13.98±4.83	14.5[4.8]	16.98±4.49	17.0[6.0]	30.94±8.23	33.0 14.8]
Statistical analysis* Probability		Z=-0.727 p=0.457		t=0.387 p=0.702		t=2.202 **p=0.033**		Z=-0.576 p=0.565	

A negative, weak, and statistically significant relationship was detected between MAAS and PSS perceived lack of self-efficacy, perceived helplessness subscales and PSS Total scores (p<0.001) (Table 5).

Table 5. Examining the relationship between the scales

Correlation*			**Mindful Attention Awareness Scale**
Perceived Stress Scale	Perceived lack of self-efficacy	r	-0.532
		p	**<0.001**
	Perceived helplessness	r	-0.612
		p	**<0.001**
	PSS - Total	r	-0.630
		p	**<0.001**

*Spearman correlation coefficient was used to examine the relationship between two non-normally distributed quantitative data.

Discussion

It is known that caregivers of people with schizophrenia experience stress for several reasons, including their diverse and multiple roles and responsibilities in caregiving and daily life and insufficient supportive resources[2,4,5]. It has been suggested that mindfulness levels may increase and perceived stress levels decrease as caregivers become aware of what they think and feel in stressful situations, with a compassionate attitude, without judgment[9,14-17].

PSS total mean was 31.26±7.90, and the mean scores from the perceived helplessness and perceived lack of self-efficacy subscales were 17.21±4.27 and 14.05±4.78, respectively. In a study conducted by the families of adolescents with autism spectrum disorder, Örs (2023) concluded that the families had average mean mindfulness scores and that their mindfulness levels significantly predicted their acceptance and stability[18]. Moderate levels of perceived stress have been reported from studies conducted to determine the relationship between perceived stress level and quality of life[19], perceived stress levels and coping strategies [20,21] and perceived stress, coping and care burden[22] for caregivers of people with schizophrenia. Different people can have different reactions to the same stressful situation[3,23].

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Mindfulness was higher in men and caregiver children, while PSS was higher in women and caregiver mothers ($p<0.001$). In a study investigating the relationship between perceived stress level and quality of life in caregivers of people with schizophrenia, the majority of caregivers were women, and perceived stress differed statistically significantly by gender[19]. A study by Masa'Deh (2017) reported a higher perceived stress level for female caregivers[24]. In another study, women were the majority of the caregivers of schizophrenia patients again and had a moderate level of perceived stress[22]. In a study conducted on caregivers of people with schizophrenia, perceived stress levels of mothers in the caregiver role were higher than those of caregivers who were spouses of the patients[4]. In another study, the stress perception of spouse caregivers was higher than that of parents and siblings[20]. Individuals' varying reactions to the same situation may be caused by differences in how the situation affects them and their level of perceived stress[3,7]. As such, children of patients may have higher mindfulness levels due to the generation difference.

Caregivers with primary education or lower education had lower MAAS scores and higher PSS scores ($p<0.05$). In the study of Sapharina and Neelakshi (2020), caregivers with primary education or lower had higher PSS-total scores than those with high school and university degrees[20]. Similarly, another study identified a negative correlation between the education level of caregivers of individuals with first-episode psychosis and their perceived stress level[25]. A study conducted to examine the perceived stress and psychological resilience levels of family members caring for individuals with mental illness found that 35% of the patient's relatives were high school graduates and that the education level of the caregivers had an impact on psychological resilience and perceived stress[26]. It appears that as the education level increases, awareness of the individual being cared for increases, and thus, coping methods can be used more actively, and any situation that may arise can be resolved without stress.

Caregivers with an income less than expenses had higher PSS total scores. Those who were unemployed had higher perceived lack of self-efficacy scores, and those who used to work but had to quit their jobs had higher mindfulness scores ($p<0.001$). Previous studies have reported higher perceived stress levels as the income level of caregivers decreases[20,22,25,26]. Studies conducted to measure the perceived stress level in caregivers of people with schizophrenia have found that housewives had a higher perception of stress[4,22]. Financial problems may cause caregivers to have difficulty meeting their own and the patient's basic needs, thus increasing their perceived stress level. Also, socialisation may have improved their mindful attention awareness, even if they have quit their jobs.

Caregivers with chronic diseases had lower MAAS scores and higher PSS total scores ($p<0.05$). George and Raju found that 8.33% of caregivers had a chronic physical condition such as diabetes and hypertension[22]. The weight of the care burden on caregivers, their inability to spare enough time for self-care, and stress may lead to chronic conditions, negatively affecting the person.

Perceived lack of self-efficacy scores of those who have cared for their patients for 10-19 years were higher ($p<0.05$). A positive correlation has been described between perceived stress and caregiving duration in the literature, with caregivers' perception of stress

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increasing as the years of caregiving increase[22,24]. Caregivers may experience deterioration in physical health, social isolation, and economic difficulties in addition to emotional burdens such as depression, anxiety, and burnout[27], and may feel inadequate as a result.

While caregivers who had support in patient care had higher MAAS scores ($p<0.05$), no significant difference was detected in their PSS scores ($p=0.057$). In the study conducted by Stanley and Balakrishnan (2023), the perceived social support provided by friends and family was low, and the reason for this was that caregivers did not find enough time and opportunity for social communication during the caregiving process, or they did not want to leave home because of the stigma due to the diagnosis of the patient they cared for[4]. Similarly, another study concluded that caregivers had difficulty seeking support from friends and other social networks due to high internalised stigma[25]. Receiving both social support and help during the care process may allow individuals to stay away from negative emotions to some extent and increase their mindful attention awareness.

Perceived helplessness scores of the caregivers who provided care to a second patient were significantly higher than those who did not ($p<0.05$). Caring for more than one person, added to the individual and social factors that individuals have to deal with, may increase their stress, causing further distress.

According to the results of this study, people with schizophrenia perceived more stress as their level of mindfulness increased ($r=-0.630$, $p<0.001$). Although there is no correlational study in the literature examining the effect of the mindfulness level of caregivers of people with schizophrenia on stress perception, experimental studies show that caregivers' perception of stress decreased as their mindfulness levels increased[9,14-17]. Also, previous studies with different sample groups, such as students, soldiers and adults, reported less perceived stress with increasing levels of mindfulness[10,23,28,29]. Mindfulness is considered a protective factor against some challenging effects of life events[29,30]. Studies also show that with higher levels of mindfulness, people perceive life events as less stressful and threatening and, therefore, are more likely to cope with stress through adaptive means[14,16,17].

Research Limitations

Conducting the study in a single centre was a limitation of the research.

Conclusion

The study demonstrated relationships between caregivers' gender, degree of relationship to the patient, having children, education, monthly income, employment status, presence of a chronic condition, years of caregiving, presence of a supporter in patient care, presence of another individual being cared for, and mindfulness and perceived stress levels. A negative relationship was identified between mindfulness and perceived stress.

We believe that identifying these two variables in caregivers of people with schizophrenia will contribute to the literature and also to future nursing research to investigate caregivers' biopsychosocial needs, limitations in daily life, and emotional burdens. Guided by the findings of this study, mental health nurses can play an active role in improving caregivers' mental health, increasing their awareness levels, enabling them to use more constructive coping strategies in stressful situations, and developing healthy

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behaviours. In order to reduce the stress levels of caregivers who are going through stressful processes, it is recommended that psychoeducation and interventions be organized in hospitals to increase mindfulness. There are many factors that create stress, and therefore caregivers need to be supported not only in the hospital but also at home. It is also recommended that qualitative studies be conducted on mindfulness and stress perception.

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