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Anahtar Sözcükler:
Dayanıklılık; psikolojik dayanıklılık; organ nakli.

Evaluation of Psychological Resilience Levels in Patients with Kidney and Liver Transplantation

Böbrek ve Karaciğer Nakli Olan Hastalarda Psikolojik Dayanıklılık Düzeylerinin Değerlendirilmesi

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ABSTRACT

Objective: Organ transplant recipients experience many psychosocial problems before and after the transplant process. Psychological resilience is an important factor in coping effectively with these problems. This study aims to evaluate psychological resilience levels in kidney and liver transplant patients.

Methods: This descriptive study was conducted on 114 patients admitted to a private hospital who underwent organ transplantation and were followed up in an outpatient clinic between July and September 2021. Study data were collected using a Personal İnformation Form and the Resilience Scale for Adults (RSA). Data analysis used descriptive statistics, independent-sample t-tests, and one-way ANOVA.

Results: The mean age of the patients who participated in the study was 45.06±12.03. 59.6% of the patients were male, 78.9% were married, 33.3% were retired, and 53.5% were primary school graduates. 53.5% of the patients had a kidney transplant, and 63.2% were transplanted within the last 1 year. The mean scores of the psychological resilience scale of the patients were 121.14±8.09. There was a statistically significant difference in mean psychological resilience among patients by gender, marital status, educational status, economic status, and duration of illness ($p<0.05$).

Conclusion: Transplant patients have a high degree of psychological resilience. The mean resilience scores differed due to the patient's gender, marital status, educational status, economic status, and duration of illness. Knowing these factors will guide nurses in providing adequate psychosocial care and supporting organ transplant patients.

ÖZ

Amaç: Organ nakli alıcıları, nakil işleminden önce ve sonra birçok psikososyal sorun yaşarlar. Psikolojik dayanıklılık, bu sorunlarla etkili bir şekilde başa çıkmada önemli bir faktördür. Bu çalışma, böbrek ve karaciğer nakli olan hastalarda psikolojik dayanıklılık düzeylerini değerlendirmeyi amaçlamaktadır.

Yöntem: Bu tanımlayıcı çalışmada Temmuz-Eylül 2021 tarihleri arasında organ nakli yapılan ve özel bir hastanede tutulan ve poliklinikte takip edilen 114 hasta ile yürütülmüştür. Kişisel Bilgi Formu ve Yetişkinler İçin Psikolojik Dayanıklılık Ölçeği (PSA) araştırma verilerinin elde edilmesinde kullanılmıştır. Veriler, tanımlayıcı istatistikler, bağımsız örnekler t testleri ve tek yönlü ANOVA testleri kullanılarak analiz edilmiştir.

Bulgular: Çalışmaya katılan hastaların yaş ortalaması 45.06±12.03 olarak bulunmuştur. Hastaların %59,6'sı erkek, %78,9'u evli, %33,3'ü emekli, %53,5'i ilkokul mezunuydu. Hastaların %53,5'ine böbrek nakli, %63,2'sine son 1 yıl içinde nakil yapılmıştır. Hastaların psikolojik dayanıklılık ölçeği puan ortalamaları 121.14±8.09'dur. Hastaların cinsiyet, medeni durum, eğitim durum, ekonomik durum ve hastalık süresine göre psikolojik sağlamlık puan ortalamaları arasında istatistiksel olarak anlamlı fark bulunmuştur ($p<0.05$).

Conclusion: Organ nakli hastaları yüksek derecede psikolojik dayanıklılığa sahiptir. Ortalama psikolojik dayanıklılık puanları hastanın cinsiyeti, medeni durumu, eğitim durumu, ekonomik durumu ve hastalık süresi nedeniyle farklılık göstermiştir. Bu faktörlerin bilinmesi, hemşirelere yeterli psikososyal bakım sağlamada ve organ nakli hastalarını desteklemede rehberlik edecektir.

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INTRODUCTION

New developments in modern medicine are taking place continuosly to provide a quality life for sick people. Organ transplantation is also one of the areas where progress has been made. Regular check-ups and compliance with treatment after a successful transplant surgery prolong the life of the patient, reduce the disorder related to the transplanted organ, raise life quality of the patients and enable them to lead a better life (Hart et al., 2017). A successful transplantation is an important process that enables the patient to gain their own freedom and control their own life. However, there is an adaptation to a new life with transplantation, and the patient may experience many problems in this process (Perdeci, Ate and Algul, 2011).

Stress in the initial phase of the transplant process causes basic psychosocial problems such as changes in the recipients's physical ability, change in the family role, anxiety and fear about the future, loss of comfort, independence, autonomy and privacy, and increased difficulty in relationships with friends and work environment (Mattei et al., 2019). These problems may be accompanied by psychosocial problems such as anxiety and depression related to inadequate health practices and post-transplant health status during the transplantation process. Post-transplant procedures and psychosocial problems related to adapting to a new lifestyle lead to an increase in the patient's anxiety after discharge (Kacmaz and Ünsal Barlas, 2014). Adaptation problems, problems related to re-adaptation to the new life process, increased physical and functional disability are psychosocial problems that can be seen frequently after transplantation (Ozdemir and Tascı, 2013). After transplantation, patients who have difficulty in adapting to the new life order came with transplantation have difficulty in coping with this situation and may experience feelings such as helplessness, guilt, anger, fear and social isolation (Ozsaker, 2014). The level of experiencing and coping with these emotions may vary from person to person. Some people give up resisting difficulties, while others are able to cope under stress or difficulties. Resilience is recognized as a complex and dynamic construct, defined as "the process of adapting well to adversity, trauma, tragedy, threats and even significant sources of threat" (Annema, Roodbol, Stewart, Porte and Ranchor, 2015). In the face of significant difficulties and risks, the individaul can protect its mental health and can display a strong, patient, calm and problem solving, combative stance in the face of problems and stressful situations (Southwick and Charney, 2012). Studies have shown that people who exhibit resilience have better psychological adjustment against acute or chronic stressors (Simpson and Jones, 2012). Individuals with high resilience deal with stressful events more effectively (Kavi and Karakale, 2018) and have less psychological problems after exposure to stress or trauma (Smith et al., 2016).

While there are different impacting issues that have a role in the explanation of the psychological resilience, studies show that these issues can be divided in three general categories (Basım and Cetin, 2011). These categories can be listed as; harmony and support of the family, personal characteristics and external support systems like social environment and friends at work etc. Although studies on resilience in organ transplant patients are limited (Fernandez, Fehon, Treloar, Ng and Sledge, 2016; Kara et al., 2020), resilience is a protective factor that can indirectly improve physical health through emotional coping. Psychological resilience, coping, and social support before and after transplantation are strong predictors of post-transplant morbidity and mortality. Accordingly, the aim is to put forth the psychological resilience levels of individuals and the factors affecting the resilience during the organ transplantation process.

METHODS

Research Design

This study was conducted in descriptive type.

Population and Sample

The study population included patients (n: 287) who had been transplanted at an organ transplant center. Among patients who are over 18 met the inclusion criteria, did not have communication problems, did not have a psychiatric diagnosis, and agreed to participate in the study, 118 volunteers were included. Patients under the age of 18 with mental health problems such as communication, hearing impairment, cognitive impairment, psychotic disorders, and brain disease were excluded from the study. Subsequently, 4 patients were also excluded because they could not complete the questionnaires correctly. Finally, a total of 114 patients was selected for taking part in the study.

Data Collection

Data were collected anonymously from patient volunteer participants selected by using simple random sampling in the transplant unit between July and August 2021.

Data Collection Tools

The Resilience Scale for Adults (RSA) and Personal Information Form were used during data collection.

Personal information form: It is a form with 13 questions that includes the sociodemographic characteristics of the patient, the knowledge of the disease and the factors that may affect their psychosocial adjustment to the disease, and the patient's information about the disease.

Resilience Scale for Adults (RSA): The RSA is a tool created by Fribourg et al. (2003) for the determination of resilience in adults. The scale adapted to Turkish by Basım and Çetin (2011). It is a 33 item 5-point Likert scale. The score that can be obtained from the scale is min=33, max=165. This scale have six sub-scale and these are: "Structural Substyle (items; 3, 9, 15, 21)", "Perception of Future (items; 2, 8, 14, 20)", "Family Cohesion (items; 5, 11, 17, 23, 26, 32)", "Perception of Self (items; 1, 7, 13, 19, 28, 31) "and "Social Competence (items; 4, 10, 16, 22, 25, 29)", and "Social Resources (items; 6, 12, 18, 24, 27, 30, 33)". If psychological resilience is willing to increase as the scores increase, it should be scored as 1 to 5. If it is to be evaluated in this way, the reverse questions in the scale are 1-3-4-8-11-12-13-14-15-16-23-24-25-27-31-33. If psychological resilience is willing to increase as the scores decrease, it should be scored as 5-4-3-2-1. In this evaluation, the reverse questions on the scale are 2-5-6-7-9-10-17-18-19-20-21-22-26-28-29-30-32 (Basım and Cetin, 2011). In this study, the explanation was that the higher the score, the more psychological resilience the patient had. The Cronbach's alpha was calculated to be 0.86 for the original scale and 0.87 for this study.

Data Analysis

Data collected from the study were evaluated using the SPSS (Statistical Package for the Social Sciences) software package. Frequency distributions (counts, percentages) are used for categorical variables. Descriptive statistics (mean, standard deviation, min, and max) are used for numeric variables. It was evaluated whether the collected data were suitable for normal distribution. As a result of the evaluation, the Kolmogorov-Smirnov test was examined and it was seen that this value was greater than 0.05 significance level. Therefore, it was decided that the data fit the normal distribution. The independent samples t-test was used to examine the difference between two sets of categorical variables. When there are more than two groups, use the ANOVA (one-way) test. Supplementary post hoc analysis after ANOVA was used to determine differences. Cronbach's alpha is used to measure the reliability of the scale. The results obtained were evaluated at a significance level $p< 0.05$.

Ethical Considerations

Ethical approval was obtained from the Independent Ethics Commission of the Ege University of Faculty of Medicine (Decision number: 21-6.1T/1 on 24 June 2021). Permission was obtained by email from the authors who performed scale validation and reliability for the data collection tools used in the study. Verbal and written consent from the participants was also obtained. The rules of the Declaration of Helsinki were followed during data collection.

RESULTS

When the distribution of the participants according to their descriptive characteristics is examined (Table 1). The mean age of the patients was 45.06±12.03, and the patients were at least 18 years old and at most 70 years old. It was determined that 59.6% of the patients were women. It was observed that 78.9% of the patients were married, 53.5% were primary school graduates, and 33.3% were retired from their profession. It was determined that 32.5% of the patients lived in the village, 56.1% lived in an apartment, and 69.3% perceived their economic situation as middle.

When the patients' knowledge of the clinical features were examined (Table 2), it was seen that 54.4% of the participants had an additional chronic disease. The most common chronic disease was found to be hypertension (33.34%). 53.5% of the patients had a kidney transplant. 42.1% of the patients have this disease for 4-6 years. From the time of diagnosis, 36.8% of the patients received treatment. 63.2% of the patients had an organ transplant within 0-1 years. After the transplant, 60.5% of the patients were hospitalized again.

Table 1. Sociodemographic Characteristics of the Patients (N=114)

Descriptive Characteristics	**Mean(SD)**	
Age (Min-Max= 18-70)	45.06(12.03)	
	n	**%**
Gender		
Woman	46	40.4
Male	68	59.6
Marital		
Married	90	78.9
Single	24	21.1
Education		
Primary	61	53.5
Secaondary	6	5.3
High	33	28.9
University	14	12.3
Job		
Employee	29	25.4
Officer	5	4.4
Retired	38	33.3
Homemaker	20	17.5
Independent	22	19.3
Economic		
Bad	3	2.6
Middle	79	69.3
Good	32	28.1
Living Place		
Province	65	57.1
District	12	10.5
Village	37	32.4
Total	114	100

Table 2. Disease and Transplantation Characteristics of Patients (N=114)

	n	**%**
Chronic Disease		
Yes	62	54.4
Heart failure	8	7.0
Hypertension	38	33.3
Depression	4	3.5
Thyroid	4	3.5
Diabetes	8	7.1
No	52	45.6
Transplant Type		
Kidney	61	53.5
Liver	53	46.5
Disease Duration		
1-3 years	24	21.1
4-6 years	48	42.1
7-10 years	30	26.3
10 years and over	12	10.5
Treatment Time		
1 year ago	16	14.0
1-3 years	25	21.9
4-6 years	42	36.8
7-10 years	23	20.2
10 years and over	8	7.1
Transplant Time		
1 year ago	72	63.1
1-3 years	37	32.5
4-6 years	5	4.4
Post-Transplant Hospitalization		
Yes	69	60.5
No	45	39.5
Total	114	100

The mean PSA subscale scores of the patients, Structural Style 14.71±2.46; Perception of the Future 18.40±2.29; Family Cohesion 16.56±2.56; Perception of Self 20.345±1.64; Social Competence 26.33±3.12; Social Resources was determined as 2.72±2.37, and the mean PSA total score was 121.14±8.39 (Table 3).

Table 3. The Total and Subscale Mean Scores of the RSA

Scale		Min-Max	Mean(SD)
Resilience Scale for Adults (RSA)	Family Cohesion	12-26	16.56(2.56)
	Perception of Self	14-25	20.35(1.64)
	Social Competence	16-30	26.33(3.12)
	Social Resources	15-31	27.70(2.37)
	Structural Substyle	9-20	14.71(2.46)
	Perception of Future	10-20	18.40(2.29)
	Total	96-134	121.14(8.39)

SD: Standard deviation.

Table 4. The Total and Subscale Mean Scores of the RSA According to the Sociodemographic Characteristics of the Patients

Variables	Family Cohesion	Perception of Self	Social Competence	Social Resources	Structural Substyle	Perception of Future	Total
	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)
Gender							
Woman	28.93(1.80)	24.866(1.72)	24.60(3.26)	31.73(3.20)	16.30(2.57)	18.13(1.93)	146.70(10.76)
Male	28.44(2.29)	24.863(1.87)	24.39(4.15)	31.05(3.78)	15.32(2.54)	17.48(2.99)	143.95(12.61)
t/p	1.212/0.228	0.009/0.993	0.304/0.762	0.997/0.321	2.009/**0.047***	1.394/0.166	1.184/0.239
Marital							
Married	28.76(2.00)	24.79(1.86)	25.01(3.39)	31.41(3.54)	15.78(2.67)	17.90(2.34)	146.17(10.88)
Single	28.16(2.49)	25.12(1.59)	22.50(4.62)	31.04(3.66)	15.45(2.30)	17.16(3.50)	141.12(14.73)
t/p	1.151/0.222	0.633/0.428	8.821/**0.004***	0.207/0.650	0.306/0.581	1.476/0.227	3.433/0.067
Education							
Primary[a]	16.60(2.48)	20.09(1.52)	26.63(2.84)	25.01(1.91)	14.50(2.41)	18.11(2.60)	120.98(8.09)
Secondary[b]	17.83(3.12)	19.33(2.65)	25.00(3.57)	22.00(3.34)	12.50(2.07)	17.50(2.16)	114.16(8.95)
High[c]	16.42(2.04)	20.57(1.50)	26.24(3.74)	24.93(2.91)	15.12(2.61)	19.00(1.62)	122.30(8.59)
University[d]	16.14(3.71)	21.35(1.54)	25.78(2.54)	24.57(1.74)	15.64(1.90)	18.64(2.06)	122.14(5.26)
F/p	0.645/0.587	3.422/0.210	0.708/0.549	3.204/**0.026*** **(c>b)**	2.841/0.511	1.447/0.233	1.830/0.146
Job							
Worker	28.42(2.50)	24.00(2.12)	24,44(2.88)	31.62(3.06)	15.55(2.88)	17.13(2.64)	142,85(10.45)
Officer	30.00(0.00)	25.20(1.48)	25,40(5.12)	32.80(2.48)	16.60(2.30)	16.40(4.09)	148,40(14.04)
Retired	28.52(1.78)	24.91(1.60)	24,23(3.62)	30.75(3.69)	15.55(2.29)	18.26(2.16)	144,69(9.71)
Homemaker	29.30(1.55)	25.55(1.38)	26,25(3.169	31.95(3.97)	16.00(2.90)	18.15(2.05)	151,16(11.41)
Independent	28.18(2.63)	25.27(1.75)	23,13(4.94)	31.04(3.79)	15.77(2.59)	17.59(3.33)	142,72(15.06)
F/p	1.374/0.248	2.827/0.280	1.942/0.109	0.680/0.607	0.268/0.898	1.226/0.304	1.786/0.137
Economic							
Bad[a]	16.33(4.50)	16.66(2.51)	27.66(3.21)	23.33(4.04)	13.66(0.57)	17.33(1.52)	115.00(3.60)
Middle[b]	16.58(2.70)	20.65(1.38)	26.50(3.00)	24.97(1.99)	14.88(2.54)	18.62(1.98)	122.24(7.54)
Good[c]	16.53(2.07)	19.93(1.68)	25.78(3.40)	24.40(3.00)	14.40(2.38)	17.96(2.93)	119.03(9.13)
F/p	0.016/0.984	11.896/**0.000**** **(b>a, b>c)**	0.894/0.412	1.259/0.288	0.706/0.496	1.262/0.287	2.762/0.067
Living Place							
Province	28.85(1.85)	25.07(1.58)	24.66(3.19)	31.78(3.03)	15.92(2.62)	17.93(2.60)	146.14(10.84)
District	26.33(3.47)	23.66(2.57)	21.58(5.77)	28.90(5.78)	14.91(2.39)	1625(3.93)	133.27(16.87)
Village	29.00(1.49)	24.88(1.78)	25.10(3.72)	31.27(3.39)	15.62(2.60)	17.89(2.03)	146.85(10.13)
F/p	9.175/0.600	3.213/0.441	4.290/0.161	3.200/0.450	0.800/0.452	2.213/0.114	6.650/0.076

f: independent t test, F: ANOVA test, SD: Standard deviation, *p<0.05, **p<0.001.

When the characteristics and resilience levels of the patients included in the study were examined, it was found that women got higher scores of the RSA's Structural Substyle subscale according to the gender of the patients; the difference detected was statistically significant (t=2.009; p<0.05). Accordingly, it has been determined that women have more psychological resilience than men. The effect of patients' marital status on resilience was tested and found to differ statistically between the mean scores of the RSA's Social Competence subscale. According to marital status (t=0.004, p<0.05). As a result, married people were found to be more resilience than single people. Examining the effect of he education status on resilience, it was found that mean scores on the RSA's Social Resources subscale were statistically different between education levels (F=0.026, p<0.05). With the

Bonferroni advanced analysis, it was seen that this difference was due to the fact that the patients who graduated from high school ($\bar{X}$=25.01, SD=1.91) had higher scores than the patients who graduated from secondary school ($\bar{X}$=22.00, SD=3.34). The effect of the patient's economic status on resilience was tested and a statistically significant difference between the mean scores of the RSA's Perception Of Self subscale according to their occupation (F=11.896, p<0.001). It was observed that the difference detected by the Bonferroni test in the Perception of Self subscale of RSA was due to the fact that the mean scores of the patients with middle economic status ($\bar{X}$=20.65, SD=1.38) were higher than the mean scores of the patient groups with bad ($\bar{X}$=16.66, SD=2.51) and good ($\bar{X}$=19.93, SD=1.68) economic status (Table 4).

If the scores of the patients from the scale were compared according to the duration of diseases, a statistically important difference was discovered between the groups in the structural style subscale of the RSA (F= 3.960, p<.05). This difference can be because of the difference in scores between 1-3 years ($\bar{X}$=16.62, SD=2.16) and 4-6 years ($\bar{X}$=14.83, SD=2.97) groups by Bonferroni advanced analysis. Resilience scores decreased in those with a long transport period. A statistically important difference was detected between the groups in the family cohesion subscale of the RSA (F=2.696, p<.05). Another finding is that this difference was related with the difference in scores between the 4-6 years ($\bar{X}$=29.16, SD=2.03) and 7-10 years ($\bar{X}$=27.16, SD=1.74) groups by Bonferroni advanced analysis. Accordingly, family cohesion was higher in patients with a short transplant period (Table 5).

Table 5. The Total and Subscale Mean Scores of the RSA According to the Disease and Transpalntation Characteristics of the Patients

Variables	Family Cohesion	Perception of Self	Social Competence	Social Resources	Structural Substyle	Perception of Future	Total
	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)
Chronic Disease							
Yes	28.62(1.84)	24.61(1.75)	24.09(3.90)	30.98(3.96)	15.29(2.64)	17.75(2.62)	144.29(12.22)
No	28.64(2.42)	24.09(3.90)	24.94(3.66)	31.75(3.00)	16.23(2.45)	17.73(2.67)	145.94(11.64)
t/p	-0.045/0.964	1.371/0.173	-1.184/0.239	-1.167/0.246	-1.954/0.053	0.055/0.956	-0.718/0.474
Transplant Type							
Kidney	28.60(1.88)	24.72(1.91)	24.08(4.05)	31.25(3.54)	15.95(2.36)	17.78(2.79)	144.35(13.00)
Liver	28.67(2.36)	25.04(1.66)	24.94(3.47)	31.43(3.60)	15.45(2.83)	17.69(2.45)	145.90(10.57)
t/p	-0.198/0.844	-0.924/0.357	-1.208/0.230	-0.273/0.785	1.023/0.308	0.179/0.858	-0.672/0.503
Disease Duration							
1-3 years[a]	28.75(1.98)	24.58(2.06)	24.45(4.78)	31.87(3.43)	15.45(2.10)	17.16(3.37)	143.62(13.23)
4-6 years[b]	28.61(2.20)	24.82(1.53)	24.97(3.25)	31.37(3.64)	16.62(2.16)	18.14(2.04)	147.43(11.52)
7-10 years[c]	29.16(2.03)	25.23(1.88)	24.23(3.69)	31.82(3.03)	14.83(2.97)	18.06(2.62)	145.31(10.58)
10 years and overs[d]	27.16(1.74)	24.60(2.17)	23.16(4.06)	28.91(4.05)	14.83(3.09)	16.50(2.84)	136.90(13.41)
F/p	2.696(**0.049*** **(c>d)**	0.682/0.565	0.790/0.502	2.294/0.082	3.960/**0.010*** **(b>a)**	1.840/0.144	2.376/0.074
Treatment Time							
1 year ago	28.12(2.82)	24.37(2.30)	23.37(5.11)	31.81(4.26)	15.56(2.27)	17.43(3.44)	142.43(15.66)
1-3 years	28.44(2.66)	24.68(1.90)	25.48(3.65)	31.40(3.13)	16.08(2.46)	16.84(2.85)	144.52(12.60)
4-6 years	28.82(1.70)	25.00(1.51)	24.28(3.49)	31.24(3.59)	16.21(2.25)	18.26(1.97)	146.64(10.55)
7-10 years	29.39(1.33)	25.39(1.58)	24.52(3.61)	31.86(3.73)	14.82(2.91)	18.39(2.64)	146.47(10.73)
10 years and over	27.12(1.64)	24.00(2.36)	24.50(3.58)	29.12(2.35)	14.87(3.79)	16.62(2.50)	138.66(10.85)
F/p	2.214/0.072	1.261/0.290	0.791/0.533	0.981/0.421	1.436/0.227	1.971/0.104	0.886/0.475
Transplant Time							
1 year ago	28.44(2.08)	24.76(1.88)	24.34(3.96)	31.12(3.64)	15.65(2.56)	17.44(2.83)	144.23(12.69)
1-3 years	28.83(2.26)	25.00(1.73)	24.70(3.43)	31.69(3.60)	15.86(2.70)	18.43(1.90)	146.40(10.21)
4-6 years	30.00(0.00)	25.20(1.30)	24.80(4.71)	31.80(1.64)	15.60(2.60)	17.00(3.67)	147.20(13.34)
F/p	1.502/0.227	0.285/0.753	0.123/0.884	0.347/0.707	0.860/0.908	1.963/0.145	0.463/0.761
Post-Transplant Hospitalization							
Yes	28.76(2.21)	25.10(1.64)	24.63(3.71)	31.32(3.51)	15.98(2.55)	17.89(2.50)	145.93(10.84)
No	28.44(1.97)	24.48(2.00)	24.24(3.97)	31.35(3.66)	15.31(2.62)	17.51(2.82)	143.72(13.44)
t/p	0.786/0.434	1.763/0.081	0.538/0.592	-0.470/0.963	1.363/0.176	0.766/0.445	0.949/0.345

f: independent t test, F: ANOVA test, *p<0.05.

DISCUSSION

The psychological resilience levels of organ transplant patients and the factors affecting it were evaluated. In this study, the mean score of the RSA was found to be 121.14±8.09. This average score indicated that despite the higher risks for transplant patients, the patients who participated in the study had a high level of resilience. Dane (2015), in his study with hemodialysis patients stated that his psychological resilience score was 126.41±1.64. Olmez and Karadağ (2022) found in their study that cancer patients had an psychological resilience score of 107.45±32.01. In a study aimed at determining the relationship between resilience and social support in dialysis patients, the mean score on the RSA was found to be 114.94±32.57 (Karadag, Ugur, Mert and Erunal, 2019). A study of stroke patients by Chen and Tung (2021) found a mean PSA score of 121.81±14.31. Thus, although we observe that the results in levels of psychological resilience differ; the high power of this study may be related to the small sample size and the fact that it was conducted in patients from one institution.

Literature shows that women have greater resilience (Aydın, Aktaş and Kaloglu Binici, 2022; Bulbul, 2015; Güngormus, Okanlı and Kocabeyoglu, 2015). These studies support our research. According to the conclusion our found, it is clearly evident that women scored significantly higher than men on the Structural Style subscale of the RSA. However, many studies examining the relationship between gender and resilience have shown that, contrary to our findings, men have higher resilience than women (Arrebola-Moreno et al. 2020; Ma et al., 2013). When the reasons for this difference are examined considering the literature, in a society where women socialize to take an emotional attitude despite the difficulties they experience (Karaırmak and Guloglu, 2014), women can share the difficulties they encounter in life more easily than men. In our society, women's roles and responsibilities are different from men's; women have a more emotional nature and take on the greater responsibility of the home, care of children, and motherhood roles (Yılmaz, 2018). Therefore, our study suggests that these factors contribute to increased resilience in women patients.

Looking at the results, a significant relationship was found between marital status and resilience. According to the result, it is clearly seen that married people score significantly higher than a single on the Social Competence subscale of RSA. In the study of Dane (2015), married individuals stated that they found the psychological resilience scale to score higher. A study by Yuan and Zhao (2021) of patients with skin defects on the lower extremities after flap implantation found that married patients had greater psychological resilience These results confirm our findings. However, when we look at the literature, there are studies that reach contradictory results with our findings (Al Ali and Al Ramamneh, 2021; Karadag, Ugur, Mert and Erunal, 2019; Kılınç, Erman and Kavak, 2019; Yıldız and Kılınc, 2021).

There was a statistically significant difference between the educational level of the patients who participated in the study and the results of the Social Resources sub-dimension score, a subscale of the RSA. The psychological resilience levels of the secondary school graduates were higher than the primary school graduates. In a study of dialysis patients by Karadag, Ugur, Mert and Erunal (2019), secondary school graduates were found to be more psychologically resilient than primary school graduates. This result is similar to ours. Higher education levels are associated with higher incomes, fewer financial difficulties, easier access to social resources, the better quality of life, and a positive effect on resilience (Karadag, Sevinc and Karatay, 2016).

Looking at the results, a significant relationship was found between economic status and resilience. Based on the results obtained, we clearly see that patients with moderate economic status significantly higher than those with good or bad economic status on the RSA's Social Resources subscale. In the study of Karadag, Ugur, Mert and Erunal (2019) with hemodialysis patients, the psychological resilience of patients with good economic status was also found to be high. There are many studies in the literature that support the findings of our study (Lee et al., 2020; Liu et al., 2018; Ma et al., 2013; Puspawatie, Prawesti and Sutini, 2018). However, Dane and Olgun (2016) found different results in their study. This is an expected result. Economic status affects people's welfare and happiness levels (Nouri-Saeed et al., 2015). It can be seen that the high level of economic status can increase people's access to social resources and their ability to pay financially treatment. Individuals' perception of their economic situation as more satisfactory and their ability to meet their needs affect their psychological resilience levels (Bektas and Ozden, 2016).

According to the results, there was a significant association between duration of disase and resilience. In the family cohesion subdimension of the RSA, the results of this study led to the conclusion that resilience increases with duration of illness. From this it can be concluded that as the disease progresses, the adaptation to the family increases and the psychological resilience increases. Similarly, in the structural substyle subdimension of RSA, it was concluded that resilience increases with disease duration. As the disease progresses, an individual's management and attitudes towards the disease may improve and normal life may continue. Individuals can cope with daily tasks and improve their planning and organizational skills.

CONCLUSION

This study found that organ transplant patients patients had psychological resilience were high. It has been determined that the gender, marital status, educational status, economic status and disease duration of organ transplant patients affect psychological resilience. In line with these results; In order to increase psychological resilience in the treatment and care of organ patients, it is recommended that psychiatry specialists (physician, psychiatric nurse, consultation liaison nurse) evaluate and support them not only physically, but also spiritually and spiritually.

Author Contributions

Concept and design: O.U., S.D., G.K. Data collection: O.U. Data analysis and interpretation: O.U., S.D., G.K. Writing manuscript: O.U. Critical review: O.U., S.D., G.K.

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