

Original Article

Evaluation of Life Satisfaction, Self-Esteem and Psychological Resilience in Patients with Liver Transplantation

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Abstract

Background and aim: A liver transplant is regarded as a traumatic life experience. In traumatic life experiences, the concept of resilience appears as an important factor in protecting and strengthening mental health. Furthermore, individuals with high life satisfaction and self-esteem, both of which are protective factors of resilience, are thought to have better psychological well-being. The aim of this study is to determine life satisfaction, self-esteem, and resilience levels in liver transplant patients, as well as the correlation between them.

Materials And Method: This descriptive and correlational study was conducted in a hospital in Malatya between February and June 2022. The study was completed with 122 liver transplant patients. Data were collected using the "Patient Descriptive Characteristics Form", "Contentment With Life Assessment Scale", "Rosenberg Self-Esteem Scale" and "Brief Resilience Scale".

Findings: It was found that the level of life satisfaction for liver transplant patients was 19.94 ± 6.98 , their level of self-esteem was 29.40 ± 3.87 , and their level of resilience was 18.43 ± 4.63 . There was a positive weak correlation between the resilience and life satisfaction of the patients ($r=0.368$ $p=0.001$); a positive weak correlation between resilience and self-esteem ($r=0.371$ $p=0.001$); and a positive weak correlation between life satisfaction and self-esteem ($r=0.422$ $p=0.001$).

Conclusion: As the resilience of the patients increased, so did their life satisfaction and self-esteem. As their self-esteem increased, their life satisfaction also increased. Training programs for improving resilience, self-esteem, and life satisfaction in individuals who have undergone liver transplantation should be prepared in healthcare institutions, and patients' and healthcare personnel's awareness of the importance of these concepts and psychosocial care should be increased.

Keywords: Liver transplantation, Satisfaction with Life, Self-esteem, Resilience

Introduction

End-stage liver failure is a life-threatening health problem with a high mortality and morbidity rate. Liver transplantation, on the other hand, is a treatment method that may help to prevent this health problem by prolonging life expectancy, enhancing the quality of life, and reducing morbidity rate (Rodrigue et al., 2013). It has been reported that liver transplantations have increased recently both worldwide and in Turkey, with 102524 liver transplantations in the world and 4810 in Turkey in the last three years

(GODT, 2020; T.C. Ministry of Health, 2019). However, in the post-transplant period, the patient's life does not fully return to its former state and continues to experience a chronic disease. A situation that requires individuals to make and maintain radical changes in their lifestyle, such as organ transplantation can be regarded as a traumatic life (Ozsaker, 2014). The concept of resilience is a significant factor in traumatic life experiences. Resilience makes it easier for a person to be strong in stressful circumstances, deal with stressful situations

more effectively, maintain their well-being throughout this process, and create new learning by converting this situation into an opportunity (Sacker & Schoon, 2007).

Resilience is described as an individual's potential or capacity to adapt, recover, deal with problems, and maintain normal development despite severe negative situations such as trauma, stress, social relationship problems, health problems, and economic problems (Sacker & Schoon, 2007). Studies on resilience have revealed that individuals with high resilience struggle more effectively with illness and other stressful life situations (Bahadır, 2009; Delaney-Black et al., 2002). A study that examined the correlation between mental well-being and resilience in liver transplant patients reported that they had a moderate level of resilience (Gultekin et al., 2019). Another study investigating the correlation between anxiety, depression, and resilience in liver transplant patients indicated that patients had a moderate level of resilience (Yildiz & Kilinc 2021). Resilience is a dynamic and developable trait (Fletcher & Sarkar, 2013). For this reason, there are studies in the literature that involve intervention interventions and resilience programs to promote resilience of individuals (Wood et al., 2012; Sankaranarayanan & Cyclic, 2014). High self-esteem and satisfaction with life are important concepts to increase resilience (Ozdemir & Adiguzel, 2021; Martínez-Martí & Ruch, 2017; Huebner et al., 2006).

Rosenberg defined self-esteem as one's overall evaluation in relation to oneself. Self-esteem enables people to persevere in difficult conditions (Smokowski et al., 1999). Participants in studies with patients suffering from chronic diseases are stated to have a moderate level of self-esteem (Rocha et al., 2020; Kurt et al., 2013). The studies have reported that high self-esteem is an essential component of mental health and also affects general well-being (Legault et al., 2006; DuBois & Flay, 2006). In their study, Benetti and Kambouropoulos (2006) found that individuals with great resilience had high self-esteem (Benetti and Kambouropoulos, 2006). Furthermore, studies have shown a positive correlation between self-esteem and

satisfaction with life (Moksnes & Espnes, 2013; Arslan et al., 2010; Cecen, 2008).

Satisfaction with life means one's continuing to live his life in a satisfied manner with his acquirements and future plans as a result of his comprehensive evaluation about his life. When the term "life satisfaction" is mentioned, it refers to satisfaction in whole life process rather than satisfaction with a specific situation (Eid & Diener, 2004). Satisfaction with life was found to be moderate in a study examining anxiety, depression, fatigue, and life satisfaction in older liver transplant recipients (Krenzien et al., 2017). Another study conducted on people with chronic diseases reported that their satisfaction with life was high (Kilins et al., 2019).

Resilience and life satisfaction are interrelated concepts. The results of a recent study revealed that resilience had a positive effect on life satisfaction (Zheng et al., 2020). In Erarslan's study (2014), it was found that self-esteem played a mediating role in the correlation between resilience and life satisfaction in university students. Resilience was found to predict satisfaction with life and resilience predicted positive self-concept (high self-esteem), whereas positive self-concept predicted life satisfaction (Erarslan, 2014).

Psychiatric problems were found to be common or persistent in follow-up studies in the population after liver transplantation (Annema et al., 2018; Dew et al., 2015). Patients are at psychological risk after a liver transplant (Dew et al., 2015). This situation highlights the need for psychosocial care in the transplant population. Life satisfaction, self-esteem, and resilience are key concepts in liver transplant patients for improving their well-being and preventing psychological problems. Patients with high levels of resilience are expected to have greater self-esteem and life satisfaction, which will all be protective factors in terms of physical and mental health in the post-transplant period. There is no study in the literature examining self-esteem, resilience, and life satisfaction in individuals who have had liver transplantation. The aim of this study is to evaluate life satisfaction, self-

esteem and resilience in liver transplant patients.

Material and Method

The study was carried out based on descriptive and correlational design. The study was conducted in the liver transplantation unit of Inonu University Turgut Ozal Medical Centre between February and June 2022. The population consisted of 244 patients who underwent liver transplantation in 2020 at Malatya Inonu University Turgut Ozal Medical Centre Liver Transplant Institute. The sampling size of the study was determined as 113 individuals at confidence interval of 90%, significance level of 0.05, prevalence of 0.5 and response rate of 0.9, by power analysis (according to the independent samples t-test). Participants were selected by improbable sampling method. Given the possibility of data loss in the research, 124 people were included in the study. Since the data collection form of 2 participants was determined to be incomplete, they were excluded from the study. The study was completed with the participation of 122 people. *Inclusion Criteria were being an adult liver transplantation patient (over the age of 18), desiring to participate in the study, and being able to answer the questionnaire questions. Exclusion Criteria were being a paediatric liver transplant patient (under 18 years of age), having any diagnosis that may affect cognitive status (dementia, delirium, Alzheimer, etc.), and having any physical or psychiatric problem that inhibits participation in the research are all exclusion criteria from the study.*

Data Collection Tools

Patient Descriptive Characteristics Form:

This form questioned the socio-demographic characteristics (gender, age, marital status, education level, health insurance, economic status, occupation, time after liver transplantation, donor type, and reason for transplantation) of the participants.

Contentment with life assessment scale

(CLAS): Lavalley et al., (2007) developed contentment with life assessment scale (CLAS) (Lavalley et al., 2007). Akın and Yalınz conducted its Turkish validity and reliability study on 295 university students in 2015. This self-assessment scale consists of

five items related to contentment with life. There are 2 reverse statements (3, 4) in the scale. This one-dimensional scale is responded to according to a 7-point Likert-type rating. (1-Strongly disagree, 2-Disagree, 3- Somewhat disagree, 4- Neither agree nor disagree, 5- Somewhat agree, 6- Agree, 7- Strongly agree). The minimum and maximum total scores of the scale are 7 and 35, respectively. High scores signify a high level of contentment with life. The Cronbach's Alpha reliability value was calculated as 0.73 in the Turkish validity-reliability study of the scale (Akın & Yalınz, 2015). The Cronbach's Alpha value of the scale was determined to be 0.77 in this study.

Rosenberg Self-Esteem Scale (RSES):

The scale was developed by Rosenberg in 1965 (Rosenberg & Rosenberg, 1965). Cuhadaroglu (1986) conducted the Turkish validity-reliability of the scale, and its Cronbach's Alpha reliability coefficient was found to be 0.76. Each item on the ten-item scale, which includes five positive and five negative statements (1, 2, 4, 6, 7), is rated as very true, true, false, and very false. Because self-esteem is considered a one-way concept, the total score is used after reverse items are converted. The minimum and maximum total scores of the scale are 10 and 40, respectively. High scores indicate high self-esteem (Cuhadaroglu, 1986). The Cronbach's Alpha value of the scale was determined to be 0.81 in this study.

Brief Resilience Scale (BRS):

Smith et al., (2008) developed the Brief Resilience Scale (Smith et al., 2008). Dogan conducted The Turkish validity-reliability study of the scale in 2015. Dogan's study included a total of 295 university students, and it was determined that the scale had a single factor structure with a Cronbach's Alpha coefficient of 0.83. It is a 5-point Likert type (1-Absolutely inappropriate, 2-Inappropriate, 3-Slightly appropriate, 4-Appropriate, 5-Absolutely appropriate) and 6-item self-report scale. The items 2, 4, and 6 are reverse coded. After converting the reverse items, the total score of the scale ranges from 5 to 30. High scores indicate high resilience (Dogan, 2015). In this study, the Cronbach's Alpha value of the scale was determined as 0.83.

Data Collection: The researcher gathered the data through face-to-face confidential

interview in a hospital room. The questionnaire questions were read aloud to the illiterate patients, and their responses were recorded. It took approximately 15-20 minutes to complete the data collection tools.

Data Assessment: The data were evaluated in the computer environment using SPSS 25.0 (Statistical Package for Social Science) package data program. In the study, $p < 0.05$ was accepted as significant. A normality distribution test was performed in the study. The Mann Whitney-U test and the Kruskal-Wallis test were used to compare the scales with the descriptive features in the assessment of the non-normally distributed data, and the Spearman's correlation analysis was used to compare the scales with each other. In addition, percentile distribution for the descriptive characteristics of the patients and the mean, standard deviation and minimum-maximum values for the mean score of the scales were examined.

Ethical Considerations: Before starting the study, approval from the ethics committee of a university (Approval No:2021/21) and legal authorization from the Inonu University Turgut Ozal Medical Centre, where the study would be conducted, were obtained. During the implementation of the study, the purpose of the study was explained in the form given to individuals undergoing liver transplantation, and the patients signed written informed consent.

Findings

Of the patients participating in the study, 65.6% were male, 36.1% were aged between 51-61 years, 86.1% were married, and 61.5% were primary school graduates. 85.2% of the patients had health insurance, 61.5% had an income level lower than their expenditure level and 32.8% were retired. The time elapsed after transplantation was 2.85 ± 3.79 years in 67.2% of the patients, the donor type was first-degree relative in 41.8%, and 76.2% underwent the transplant due to chronic liver failure (Table 1). The "CLAS" total mean score of the participants was 19.94 ± 6.98 , their "RSES" total mean score was 29.40 ± 3.87 , and their "BRS" total mean score was 18.43 ± 4.63 (Table 3.2).

A statistically significant, positive and weak correlation was discovered between the patients' "BRS" total mean score, "CLAS" total mean score, and "RSES" total mean

score. A statistically significant, positive and weak correlation was found between the patients' "CLAS" total mean score and "RSES" total mean score ($p < 0.05$ Table 2).

There was a statistically significant difference ($p < 0.05$) between the gender of people undergoing liver transplantation and the total mean score of the Contentment With Life Assessment Scale. Female patients were more satisfied with their lives. There was a statistically significant difference between the patients' economic status and CLAS total mean score ($p < 0.05$). The advanced analysis revealed that the difference was caused by the group with an income level higher than the expenditure level. The patients with an income level higher than the expenditure level had better life satisfaction than others ($p < 0.05$). There was a statistically significant difference ($p < 0.05$) between the education level of patients and the self-esteem scale total mean score. The advanced analysis revealed that the difference was caused by the illiterate group. Illiterate patients had higher self-esteem than others (Table 3).

The actual factors influencing resilience were identified using a linear stepwise regression model. As independent variables, overall contentment with life and self-esteem were used. Total resilience score was taken as the dependent variable. According to the results of the regression analysis, the following factors were found to have an effect on resilience: effect size of total contentment with life was 0.14 and the effect size of total contentment with life and the total self-esteem was 0.19 ($p < 0.05$). The contentment with life total score was found to have the highest effect on resilience (Table 3.4).

Discussion

In the study, it was observed that the life satisfaction of the patients was moderate. In the study conducted by Krenzien et al., (2017) with liver transplant recipients, they reported that the life satisfaction of the patients was moderate (Krenzien et al., 2017). The study results support the literature. It is estimated that liver transplant patients have high life satisfaction since their quality of life has enhanced since before the transplant (Sarigol, 2008). However, since post-transplant patients have a lower quality

of life than the general population (Aberg et al., 2008), it is estimated that their life satisfaction is low. Physical, psychological, and social problems faced by patients during the post-transplant period (Ozsaker, 2014) are thought to be effective in the low level of life satisfaction.

The patients were found to have moderate level of self-esteem in the study. In studies involving patients with chronic disease, Rocha et al., (2020) and Kurt (2010) determined that participants had a moderate level of self-esteem (Rocha et al., 2020; Kurt, 2010]. Jover-Aguilar et al., (2020), and Mayer et al., (2019) found in their studies that liver transplant patients had high self-esteem (Aguilar et al., 2020; Mayer et al., 2019). Liver transplant patients who have had a chronic process are considered to have an increase in self-esteem with the enhanced quality of life (Sarıgol, 2008) following transplantation compared to pre-transplantation period, and it is therefore estimated that patients do not have low self-esteem.

In the study, it was determined that the patients had moderate level of resilience. In the studies by Gultekin et al. (2019), and Yildiz and Kilinc (2021), patients undergoing liver transplantation had a moderate level of psychological resilience (Gultekin et al. 2019; Yildiz & Kilinc 2021). The findings of the study are compatible with those in the literature. It was believed that the emergence of both risk (high stress, chronic illness, etc.) and protective (positive expectations for the future, optimism, hope, etc.) components that comprise the concept of resilience, in conjunction with transplantation, were effective in the moderate level of resilience of patients following liver transplantation. Post-transplant patients, for example, have a risk factor in the form of a chronic disease process, but they also have protective factors such as increased life satisfaction and self-esteem.

Resilience as well as Life satisfaction and self-esteem from concepts that affect resilience and psychological stability can be considered as preventive factors for traumatic life experiences. Yi-Frazier et al., (2015) found in their study conducted with diabetic patients that having non-adaptive

coping skills with stress was associated with low resilience (Yi-Frazier et al., 2015). Toukhsati et al., (2017) found that low resilience was inversely related to affective symptoms such as depression, anhedonia, and hopelessness in their study conducted on individuals diagnosed with cardiac disease (Toukhsati et al., (2017). Patients' strong resilience during and after liver transplantation, which might be regarded as a traumatic life experience, will help them cope with the situation more effectively and maintain their well-being (Ozsaker, 2014; Sacker & Schoon, 2007; Fletcher & Sarkar, 2010). It is believed that patients who have a high level of resilience are likely to adjust better to their new lifestyle. Compliance to the process is expected to be advantageous to the mental and physical health of the patients.

The findings of the study revealed that there was a positive correlation between resilience and life satisfaction; as resilience increased, so did life satisfaction, or as life satisfaction increased, so did resilience. Mak et al. (2011) found that individuals with high resilience had more positive cognitions and reported higher life satisfaction (Mak et al. 2011), which supported the findings of the present study. In other words, more resilience leads to greater life satisfaction. Zheng et al. (2020) revealed in their study that resilience had a positive effect on life satisfaction (Zheng et al. 2020). In the study by Huebner, Suldo, and Gilman (2006), life happiness actively promoted resilience (Huebner et al., 2006). The results of the study supported the literature. Individuals with resilience are considered to deal with life stressors more effectively, hence enhancing their quality of life. As a result, patients with great resilience are likely to be satisfied with their lives.

The findings of the study indicated that there was a positive significant correlation between resilience and self-esteem; as self-esteem increased, resilience increased or as resilience increased, self-esteem increased. Some studies has shown a positive correlation between resilience and self-esteem (Rodrigue et al., 2013; Erarslan, 2014; Alibekiroglu et al., 2018]. In their study, Benetti and Kambouropoulos (2006) observed that individuals with great

resilience had high self-esteem (Benetti and Kambouroopoulos (2006). The findings of this study are compatible with the literature. It is believed that an improvement in self-esteem would affect positively the individual's mood and make him seem more hopeful and optimistic about life. Thus, it is anticipated that introducing high self-esteem, hope, and optimism, which are among the protective factors of the resilience concept, may increase patients' resilience.

The findings of the study revealed that there is a positive significant correlation between self-esteem and life satisfaction; as self-esteem increased, so did life satisfaction, or as life satisfaction increased, self-esteem increased. There are studies showing a positive correlation between self-esteem and life satisfaction (Moksnes & Espnes, 2013; Arslan et al., 2010; Alibekiroglu et al, 2018). In a study, it was determined that self-esteem was one of the important variables that predicted life satisfaction (Cecen, 2008). The findings of this study are compatible with the literature. It is expected that an individual's self-perception will influence life satisfaction owing to the meaning they attributed to their experiences (Yaman, 2019). Positive self-perception or high self-esteem is regarded to promote life satisfaction. It is anticipated that interventions for life satisfaction, self-esteem, and resilience, all of which have a positive impact on each other and can be improved, would contribute to protect the physical and mental health of patients who have had liver transplantations.

In the study, it was observed that the life satisfaction total score of the patients had the highest impact on resilience. People's life satisfaction is intimately associated with their living situations and quality of life. It is estimated that the living circumstances and quality of life of patients who have had liver transplantation affect the patients' resilience more by giving confidence and strength in managing the post-transplant process.

Limitations: The study is based on individuals' self-reports. It is possible that the patients avoided expressing their true feelings because of the environment and people around them. Because the data were obtained from a single centre during the COVID-19 pandemic, the patients' post-transplantation experiences may vary from that of other centres. The fact that the number of female participants in the study is around half that of male participants is a limitation that may impact the results.

Conclusion: The liver transplant patients' life satisfaction, self-esteem, and resilience were determined to be moderate. Life satisfaction levels of the participants who were female and had income higher than expenditure were found to be higher than the other groups. Furthermore, the illiterate participants had higher level of self-esteem than those of other education levels. It is recommended that multicentred advanced studies be conducted to determine the factors that influence the correlation between life satisfaction, self-esteem, and resilience in liver transplant patients.

Table 1. The distribution of the descriptive characteristics and liver transplantation-related information of the patients

Descriptive Characteristics		n	%
Gender	Female	42	34.4
	Male	80	65.6
Age	18-28 years	13	10.7
	29-39 years	7	5.7
	40-50 years	33	27.0
	51-61 years	44	36.1
	62 years and older	25	20.5
Marital Status	Married	105	86.1
	Single	17	13.9

Educational Level	Illiterate	13	10.7
	Literate	3	2.5
	Primary school	75	61.5
	High School	16	13.1
	University or higher	15	12.3
Health Insurance	Yes	104	85.2
	No	18	14.8
Financial Status	Income higher than the expense	3	2.5
	Income equal to expense	44	36.1
	Income less than the expense	75	61.5
Occupation	Housewife	34	27.9
	Worker	8	6.6
	Civil Servant	11	9.0
	Self-Employed	14	11.5
	Retired	40	32.8
	Other (Student, Unemployed)	15	12.3
Donor Type	First-degree relative	51	41.8
	Second-degree relative	23	18.9
	Third-degree relative	10	8.2
	Fourth-degree relative	11	9.0
	Partner	8	6.6
	Friend	10	8.2
	Cadaver	9	7.4
Cause of transplantation	Acute liver failure	16	13.1
	Chronic liver failure	93	76.2
	Metabolic diseases	8	6.6
	Malignity	5	4.1
Time after transplantation	Mean±SD	2.85±3.79	

n: Number of Individuals

Table 2. The correlation between patients' resilience scale, Contentment With Life Assessment Scale and self-esteem scale total mean scores

		Contentment With Life Assessment Scale	Self Esteem Scale	Resilience Scale
		Mean±SD	Mean±SD	Mean±SD
		(19.94±6.98)	(29.40±3.87)	(18.43±4.63)
Contentment	r	-	0.422	0.368

With Life	p	-	0.001	0.001
Self Esteem	r	0.422	-	0.371
	p	0.001	-	0.001
Resilience	r	0.368	0.371	-
	p	0.001	0.001	-

Mn; Mean, SD; Standard deviation, r= Spearman's Correlation Test Coefficient, p<0.05

Table 3. Comparison of the patients' Contentment With Life Assessment, self-esteem and resilience mean scores according to their descriptive characteristics.

Descriptive Characteristics		Total Score on the Contentment With Life Assessment Scale	Total Score on the Self-Esteem Scale	Total Score on the Resilience Scale
Gender	Male	21.78±6.05	29.59±4.23	17.90±4.99
	Female	18.97±7.27	29.30±3.68	18.71±4.43
	Test Value	MWU=1308.000	MWU=1616.500	MWU=1517.500
	Significance	p=0.045	p=0.731	p=0.380
Age	18-28 years	21.00±6.92	29.61±3.54	17.69±4.36
	29-39 years	17.28±4.53	27.42±3.45	17.28±3.25
	40-50 years	18.81±7.42	29.06±4.10	18.33±4.49
	51-61 years	20.09±7.78	29.72±4.20	18.50±4.81
	62 years and older	21.36±5.31	29.72±3.24	19.16±4.98
	Test Value	KW=3.524	KW=3.248	KW=2.172
	Significance	p=0.474	p=0.517	p=0.704
Marital Status	Married	19.68±7.07	29.58±3.93	18.45±4.63
	Single	21.52±6.38	28.29±3.31	18.29±4.76
	Test Value	MWU=760.500	MWU=745.000	MWU=862.000
	Significance	p=0.328	p=0.274	p=0.821
Educational Level*	Illiterate	18.23±6.96	27.53±2.96	17.23±5.13
	Literate	23.66±4.04	28.00±2.64	14.33±5.85
	Primary school	19.45±7.02	29.02±3.75	18.37±4.64
	High School	20.81±7.55	30.87±3.55	20.37±4.11
	University or higher	22.20±6.49	31.60±4.54	18.53±4.06
	Test Value	KW=3.688	KW=10.364	KW=6.704
	Significance	p=0.450	p=0.035	p=0.152
Health Insurance	Yes	20.42±6.96	29.66±3.99	18.61±4.67
	No	17.16±6.58	27.88±2.67	17.38±4.34
	Test Value	MWU=691.500	MWU=673.000	MWU=794.000
	Significance	p=0.077	p=0.057	p=0.304
Financial Status*	Income higher than the expense	21.66±2.88	29.66±3.21	17.66±4.50
	Income equal to expense	22.27±6.30	30.02±3.82	19.63±4.27
	Income less than the expense	18.50±7.14	29.02±3.91	17.76±4.74
	Test Value	KW=8.359	KW=2.150	KW=5.681
	Significance	p=0.015	p=0.341	p=0.058

Profession	Housewife	22.08±5.40	29.58±4.09	18.52±4.61
	Worker	18.87±7.12	28.00±4.17	17.50±4.95
	Civil Servant	18.00±9.81	28.63±4.50	17.72±4.00
	Self-Employed	19.35±6.23	30.14±3.52	17.28±3.98
	Retired	19.92±7.15	29.70±3.98	19.00±5.03
	Other (Student. Unemployed)	17.66±7.68	28.80±2.85	18.80±4.76
	Test Value Significance	KW=4.426 p=0.490	KW=3.605 p=0.608	KW=2.302 p=0.806
Donor Type	First-degree relative	20.33±6.93	29.47±3.64	18.01±5.24
	Second-degree relative	18.39±6.49	28.34±3.19	17.56±4.49
	Third-degree relative	17.80±9.91	32.10±4.25	20.00±4.21
	Fourth-degree relative	21.72±5.36	29.27±4.56	18.81±3.65
	Partner	20.37±6.02	27.50±3.89	18.00±4.24
	Friend	24.00±4.83	30.90±4.90	19.70±4.66
	Cadaver	17.00±8.21	28.88±3.10	19.77±3.03
Test Value Significance	KW=7.200 p=0.303	KW=7.701 p=0.261	KW=4.252 p=0.643	
Reason for Transplantation	Acute liver failure	21.81±7.33	29.81±4.44	17.68±4.62
	Chronic liver failure	19.54±7.13	29.31±3.71	18.67±4.66
	Metabolic diseases	20.62±6.61	28.87±4.51	16.37±4.20
	Malignity	20.20±2.77	30.60±4.82	19.60±4.82
	Test Value Significance	KW=1.652 p=0.648	KW=.963 p=0.810	KW=2.616 p=0.455
Time after transplantation	Mean±SD	2.85±3.79	2.85±3.79	2.85±3.79
	Test Value and Significance	r:0.36 p:0.693	r:0.015 p:0.867	r:0.048 p:0.599

KW: Kruskal-Wallis Test, MWU: Mann Whitney-U Test, p<0.05 *Duncan

Table 4. Regression Analysis on the Effect of Resilience on Life Satisfaction and Self-Esteem

Dependent Variable	Independent Variable	Beta ^b	F	p-value	R ²	t	p
Resilience Total	1 (continuous)			0.00	0.142	11.367	0.00
	Contentment with life total	0.376	19.783	0.00		4.448	
	2 (continuous)			0.00	0.195	3.705	0.00
	Contentment with life total	0.315	14.406	0.00		-2.810	
	self-esteem total	-0.239		0.00			

Bold texts p<0.05

Dependent variable: resilience total a Preparatory: (continuous), Contentment with life total b Preparatory: (continuous), Contentment with life total, self-esteem total

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