Clinical and Experimental Health Sciences

Determination of the Relationship Between Family and Social Support and Anxiety-Depression Levels in Liver Transplant Patients

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Received: 28.02.2021 **Accepted:** 25.05.2023

ABSTRACT

Objective: The present study was conducted to determine of the relationship between family and social support and anxiety-depression levels in liver transplant patients.

Methods: The Introductory Characteristics Determination Form, Hospital Anxiety and Depression Scale (HADS), Multidimensional Perceived Social Support Scale (MPSSS) and Perceived Family Support Scale (PFSS) were used to question the socio-demographic characteristics of the patients.

Results: When the distribution of the mean anxiety and depression scores according to their introductory characteristics of the patients was examined, it was determined that the mean score of HADS was found to be high (HAD-A=19.71±3.29, HAD-D=15.90±1.99). The mean MPSSS of the patients was found to be at moderate level as 54.56±17.40; and the mean total score of the PFSS of the patients was found to be at high level as 35.77± 7.16. It was determined that family and social support was effective in reducing the depression levels after liver transplantation.

Conclusions: It was found that family and social support was influential in reducing the depression levels after liver transplantation.

Keywords: Liver transplantation, anxiety, depression, family support, social support.

1. INTRODUCTION

Liver transplantation is an indicated treatment for patients who have progressive and irreversible liver disease and no other treatment options (1,2) The number of liver transplantation is increasing every day in the world (1). A total of 1.610 patients underwent liver transplantation in Turkey in 2022 (3). Liver disease is considered as a chronic disease (4). Patients who have liver disease have some restrictions imposed by the disease on them. The presence of numerous symptoms (i.e. anorexia and weakness), which are usually not specific at the onset of the disease, can progress to more serious and crippling symptoms like acid and encephalopathy in the progression of liver disease. This affects the quality of life and mental health of liver transplant candidates negatively (4,5)

Important medical and surgical improvements have been made in recent years during the transplantation process (6) However, patients on the transplantation waiting list experience stress factors like life style changes, uncertainties regarding continuous waiting, surgical intervention, and postoperative treatment (7). Also, adaptation to new medical treatment, the changes in body image, family process and social life cause anxiety in psychosocial terms. After a long period following the discharge from hospital, the patient experiences anxiety and depression as s/he leaves the hospital when he tries to be used to home life (6,7).

It is considered that the importance of family and social support is great in the negativities that anxiety and depression can cause (7). Family and social support affects the well-being of individuals. These supports are a subject that is investigated in different clinical cases because of their associations with the prognosis of the disease in adverse cases like disease (8). Clinical studies show that continuously waiting for an “organ”, and changing the lifestyle in this process adversely affect the patient (7,8). For this reason, it is considered that the support received from friends and family members during transplantation process is an important factor contributing to the reduction and recovery of anxiety and depression levels of patients who are in the treatment process (7-9).

Care forms the basis of nursing. While providing nursing care, the patient should not only focus on the disease, but the patient should be considered as a whole with all its dimensions (10). Liver transplantation is a complex condition, which requires professional approach before, during and after the transplantation (11). The nurse, who is constantly on the patient’s side during the healing process,

DOI: 10.33808/clinexphealthsci.888309

may be the key to implementing new applications and further individualizing patient care by determining the needs and gives the necessary care to patients. It is accepted that there is a close relation between body, mind and soul while focusing on the philosophy of the holistic care and individuality by focusing all the stages of the process (10)

In the light of these data, this study was planned and conducted to determine the effects of family and social support in patients undergoing liver transplantation on anxiety-depression.

2. METHODS

2.1. Design and Sample

This study was planned and conducted to determine the effects of family and social support in patients undergoing liver transplantation on anxiety-depression. The study was conducted with 66 patients who were qualified to answer the questions of the study, who volunteered to participate in the study, who were 18 years and older, and who underwent liver transplantation at Atatürk University, Organ Transplantation Education Research and Application Center between November 2014 and September 2017, 6 months after the date of transplantation. The universe of the study consisted of the patients who underwent liver transplantation at the specified dates, and the sample consisted of 66 patients who met the research criteria.

2.2. Instruments

The Introductory Characteristics Determination Form, Hospital Anxiety and Depression Scale (HADS), Multidimensional Perceived Social Support Scale (MPSSS), and Perceived Family Support Scale (PFSS) to question the socio-demographic characteristics of the patients in the study.

The Introductory Characteristics Determination Form: This form contained questions regarding the sociodemographic data like gender, age, educational status of the participants, and was prepared by the researcher in line with the literature (1, 2, 4-7).

The Hospital Anxiety and Depression Scale (HADS): This scale was developed by Zigmond and Snaith (11) in 1983, and its adaptation for Turkey was conducted by Aydemir et al. (12) in 1997. The Hospital Anxiety Depression Scale (HADS) includes the anxiety and depression include subscales, and it is a scale of self-notification, consisting of 14 items 7 of which investigate the symptoms of depression (even numbers), and 7 of which investigate the symptoms of anxiety (odd numbers). The answers are evaluated in the form of 4-Point Likert, and are scored between 0-3. The purpose of the scale is not to diagnose, but to identify the risk group by screening the anxiety and depression levels in patients with physical illness in a short time (11,12). It has Anxiety (HAD-A) and Depression (HAD-D) subscales. As a result of the studies conducted in Turkey, the cut-off score of the scale for the anxiety subscale was found to be 10, and 7 for the depression subscale. In this respect, the areas above these scores are considered under risk (12). In this study, the Cronbach Alpha reliability coefficient was found to be 0.78 for the subscale of anxiety, and 0.77 for the depression subscale.

Multidimensional Perceived Social Support Scale (MPSSS): The scale was developed by Zimmet (13) et al. in 1988, and the validity and reliability study for Turkey was conducted by Eker and Arkar (14) in 1995. The scale evaluates the adequacy level of social support from three different sources, and consists of a total of 12 items. There are three groups of four items each one related to the source of support: Family (Items 3, 4, 8, 11) are friends (Items 6, 7, 9, 12), and a special person (Items 1, 2, 5, 10). The scale is in the form of 7-Point Likert type, and consists of options “I totally agree” (7 points), “I mostly agree” (6 points), “I agree” (5 points), “I am undecisive” (4 points), “I disagree” (3 points), “I mostly disagree” (2 points), and “I disagree at all” (1 point) (14,15). The total score of the scale is obtained by adding the scores of the four items in each subscale; and the total score of the scale is obtained by adding all subscale points. The lowest score that may be received from the subscales is 4, and the highest score is 28. The lowest score that may be received from the entire scale is 12, and the highest score is 84 (14). A high score shows that the perceived social support (13,14). The Cronbach Alpha reliability coefficient was found to be 0.92 in the present study.

Perceived Family Support Scale (PFSS): The Perceived Family Support Scale, which was developed by Procidano and Heler in 1983 (15), adapted by Eskin in 1993 (16), and developed by Yıldırım in 1997 (17), was used to determine the level of perceived family support in the study. The scale consists of 20 questions which are answered as “Yes, No, Partly”. In the scale, questions 3, 4, 16, 19 and 20 are rated “No (2)”, “Yes (0)”, “Partially (1)”, and all other questions are rated “No (0)”, “Yes (2)”, “Partly (1)”. The Perceived Family Support Scale consists of items that can be perceived by people at almost every education level. The score received from the scale varies between 0 and 40. Increased scores show good family support (15-17). In this study, the Cronbach Alpha reliability coefficient was found to be 0.81.

2.3. Data Collection

The researcher applied the Introductory Characteristics Determination Form, Hospital Anxiety and Depression Scale (HADS), Multidimensional Perceived Social Support Scale (MPSSS), and Perceived Family Support Scale (PFSS) with face-to-face interview method to the patients who underwent liver transplantation in the 6th month after the transplantation.

2.4. Ethical Considerations

The study was commenced after receiving the approval from the Ethics board of Atatürk University, Faculty of Health Sciences on 14.11.2014 and decision number 2014/11 and was conducted according to the Helsinki Declaration principles.

2.5. Statistical Analysis

Statistical evaluation of data was done with the IBM Statistical Package for Social Sciences (SPSS) 24 program. Numbers and percentages, Mann Whitney U, ANOVA, Pearson Correlation and Multiple Regression Analysis were used. The significance level was evaluated at p<0.05 level.

3. RESULTS

The mean age of the patients who were included in the study was 43.17±14.42 years, and the mean age of the patients at transplantation was 40.45±13.70. A total of 62.1% of the patients were male, 77.3% were married, 39.4% were primary school graduates, 65.1% lived in villages, 74.2% had children, and 90.9% lived in nuclear families (Table 1). When the distribution of the mean anxiety and depression score was examined according to the identifying characteristics of the patients, it was determined that the mean anxiety and depression score was high (HAD-A=19.71±3.29, HAD-D=15.90±1.99). The gender, anxiety and depression were found to be statistically significant. The mean anxiety score of the males (20.21±1.62) was higher than the mean anxiety score of females (18.88±4.95) which was found to be statistically significant (p<.001) (Table 1).

Statistically significant differences weren't detected between the age, age of transplantation, marital status, educational status, where they lived, whether they had children, family types and anxiety and depression score averages of the patients (p>.05) (Table 1).

The total mean Multidimensional Perceived Social Support Scale (MPSSS) score was found to be at a moderate level as 54.56±17.40. When the subdimensions of the MPSSS scale were examined; 26.21±4.88 was received from the "family" dimension, which is high; 14.43±7.72 was received from the "Friend" dimension, which is moderate; 13.90±9.47 was received from the dimension of "Special One", which is medium level (Table 2).

Table 1. *Distribution of the Mean Anxiety and Depression Scores of the Patients according to Descriptive Characteristics (n=66)*

Descriptive Characteristics	Number Mean±SD	%	HAD-A Mean±SD (19.71±3.29)	Significance	HAD-D Mean±SD (15.90±1.99)	Significance
Age	43.17±14.42					
Transplantation Age	40.45±13.70					
Gender						
Female	25	37.9	18.88±4.95	MW= 3.570	16.44±2.80	MW=-0.955
Male	41	62.1	20.21±1.49	**p<0.001**	15.58±1.20	p>0.340
Marital Status						
Married	51	77.3	20.00±3.50	MW = – 0.540	15.72±1.56	MW=-1.312
Single	15	22.7	18.73±2.25	p>0.124	16.53±3.02	p>0.190
Educational Status						
Illiterate	14	21.2	19.50±6.90		16.91±2.39	
Primary School	26	39.4	20.03±1.58	F=0.811	15.42±1.20	F=1.115
Secondary School	12	18.2	19.50±1.78	p>0.546	16.08±3.36	p>0.362
High School	14	21.2	20.54±1.29		15.54±1.03	
Residence						
Village	43	65.1	19.97±3.73	F=0.401	15.67±1.43	F=0.970
City	17	25.8	19.17±2.60	p>0.753	16.17±1.91	p>0.413
Metropolitan City	6	9.1	19.00±2.68		17.00±4.60	
Having Children						
Yes	49	74.2	19.85±3.59	MW= – 0.300	15.83±1.59	MW= – 0.3738
No	17	25.7	19.31±2.30	p>0.764	16.25±2.93	p>0.710
Family Type						
Nuclear	60	90.9	19.73±3.39	MW= – 0.149	15.98±2.06	MW= – 0.628
Extended	6	9.1	19.60±2.50	p>0.881	15.40±0.54	p>0.530

Table 2. *Distribution of Mean Total PFSS, MPSSS and Subdimension Scores of the Patients (n= 66)*

MPSSS and sub-dimensions	Mean±SD
Family	26.21±4.88
Friend	14.43±7.72
Special	13.90±9.47
MPSSS Total	54.56±17.40
PFSS Total	35.77± 7.16

The total mean score of the patients in Perceived Family Support Scale (PFSS) was 35.77±7.16, which is high (Table 2).

In the study, a statistically significant, positive, weak-level relation was detected between the only HADs-A and PFSS scores; and a statistically significant, negative, meaningful, weak-level relation was detected between the mean HADs-D and PFSS scores. A significant, positive and moderate relation was detected between the only PFSS and MPSS scores (Table3).

Table 3. *The distribution of the relation between the sub-dimensions of the HADS, MPSS and PFSS scales (n=66)*

		HADs-A	HADs-D	PFSS	MPSSS
HADs-A	r	1			
HADs-D	r	0.107	1		
PFSS	r	0.364**	-0.326**	1	
MPSSS	r	0.236	-0.097	0.410**	1

**: p<0.05, **: p<0.001*

r : Correlation coefficient

When the results of the effect of the PFSS and MPSS scores of the patients on anxiety and depression were examined, it was determined that the PFSS variable, which is among the arguments, it was determined the independent variable PFSS variable had a statistically significant effect on HAD-A and HAD-D (Table 4). According to these results, a one-point increase in the PFSS variable increased the HAD-A at a rate of 0.15 points and decreased the HAD-D at a rate of – 0.10 points.

Table 4. *The effect of the mean PFSS and MPSS Scores of the Patients on Mean HADS Scores*

Variables	HAD-A (n=66)					HAD-D (n=66)				
	B	SE.	βeta	t	p	B	SE.	βeta	t	p
PFSS	0.15	3.10	0.32	2.51	0.02	-0.10	1.90	0.35	-2.64	0.01
MPSSS	0.02	2.08	0.10	0.82	0.42	0.01	1.70	0.05	0.34	0.73
Model	R=0.38; Adjusted R^2= 0.14; F= 5.18					R=0.33; Adjusted R^2= 0.11; F= 3.82				

4. DISCUSSION

The liver transplantation process is a complex process, which requires a professional approach before, during and after transplantation (18). The wait for liver transplantation and changing the lifestyles during this period can cause anxiety and depression in patients. Anxiety also increases when transplant patients are discharged from the hospital, which might be because of the loss of the security sense provided by intensive hospital care or due to the efforts to follow the medical regime after the transplantation. The anxiety and depression affect the post-transplantation treatment process in a negative way (19,20). In this study, which examined the family and social support in patients who underwent liver transplantation on anxiety-depression levels, it was determined that patients had high anxiety and depression levels (Table 1). Similarly, it was found that patients had high anxiety and depression levels before and after liver transplantations in a systematic review conducted by Young et al. (21) These findings are support other studies. (8,9,22).

When the mean anxiety and depression score was evaluated according to the introductory characteristics of the patients, it was determined that the mean anxiety score in males was higher than the average of the anxiety score in females, and this difference was statistically significant (p<.001) (Table 1). Unlike this study, 90 patients who underwent liver transplantation were examined by Yıldız and Kılınç (23), and Dąbrowska-Bendera et al. (24) examined 121 patients who underwent liver transplantation and reported that female patients had higher anxiety and depression levels compared to male patients. Annema et al. (25), on the other hand, conducted a study with 153 patients, and Paglione et al. (1) conducted another study with 153 patients, and did not find a significant difference between the anxiety and depression levels in terms gender.

In previous studies, it was reported that social and family support is effective in protecting the individual from the harmful effects of stressful life events and acts as a “buffer” against the negative outcomes of diseases (26-28). Liver transplantation increases the need for social and family support. Liver transplantation requires long-term treatment and care. It is considered that, patients’ being able to carry out their own care in the post-transplantation period depends on the motivation they can receive from their family and social circle. Increased anxiety and depression levels during transplantation cause patients to deal with the disease worse and prolong the recovery time (7,8). In the literature, it is reported that perceived support from family and friends reduces the anxiety and depression level (27-30). It is observed that the individual will decrease the anxiety and depression level with the support of the social environment and family after liver transplantation, which will affect his health, especially during the recovery process (7).

It was determined in this study that social support scores were at moderate levels, and family support scores were at high levels. Lopez et al. examined 70 patients who underwent liver transplantation in 2011 and reported that social and family support was low. However, they also found that the anxiety and depression levels were high. In the study of Okoyo Opiyo et al., it was determined that the perceived social support and optimism about the condition had positive effects on the healing process (29). in family support. Akawaza et al. (30) conducted studies and showed that family support.

In this study, it was determined that the depression level decreased with increasing family and social support. It was also determined that social support will increase with the increase is effective in the ability of transplantation patients to manage their new lives individually.

5.CONCLUSION

In the present study, the mean hospital and depression scale scores were high in all patients who underwent liver transplantation. It was determined that family and social

support is effective in reducing the depression levels after liver transplantation. It was also determined that family support is more effective in reducing this level. Patients need family and social support to minimize the complications, which can be caused by anxiety and depression during the healing process after liver transplantations. This is important when it is considered that the family structure has changed in our present day. For this reason, nurses who are with patients in all processes of liver transplantation, and who plan holistic care must ensure that alternative social support is provided to patients in case familial support is not functional. In this way, a decrease becomes possible in the anxiety and depression levels, which might develop after liver transplantations.

Acknowledgements: *We would like to thank all participants involved in the study. This research was accepted as oral presentation at 3rd International Mediterranean Symposium, 31.10.2019 – 02.11.2019, Mersin, Türkiye.*
Funding: *The author(s) received no financial support for the research.*
Conflicts of interest: *The authors declare that they have no conflict of interest.*
Ethics Committee Approval: *This study was approved by Ethics Committee of Atatürk University, Faculty of Health Sciences, (approval date 14.11.2014 and number 2014/11)*
Peer-review: *Externally peer-reviewed.*
Author Contributions:
Research idea: KKS, NK
Design of the study: KKS, NK
Acquisition of data for the study: KKS, NK
Analysis of data for the study: KKS
Interpretation of data for the study: KKS
Drafting the manuscript: KKS
Revising it critically for important intellectual content: KKS, NK
Final approval of the version to be published: KKS, NK

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How to cite this article: Koraş Sözen K, Karabulut N. Determination of the Relationship Between Family and Social Support and Anxiety-Depression Levels in Liver Transplant Patients. Clin Exp Health Sci 2023; 13: 444-449. DOI: 10.33808/clinexphealthsci.888309