

## The factors affecting the quality of life of patients who have undergone kidney transplants

Mehtap Curcani<sup>1</sup>, Mehtap Tan<sup>2</sup>

### ABSTRACT

**Objective:** This study was carried out with the purpose of determining the factors affecting the quality of life of patients who have undergone kidney transplants.

**Methodology:** The study followed 42 patients registered as having undergone kidney transplants in the nephrology polyclinic of a university hospital in Erzurum. The research was conducted between July and October of 2008.

**Results:** There was a statistically significant distinction between the well-being, and global quality of life average scores, general health perception and gender of the patients. It was found that the quality of life average scores in those who received information about postoperative process were higher than those didn't and there was statistically significant distinction between ( $p < 0.05$ ).

**Conclusion:** It was concluded that giving information about postoperative process, gender, marital status, and the post-transplantation period had a positive impact on the patients' quality of life. It is thought that these findings will be a guide in the nursing care of the patients who have undergone kidney transplants.

**KEY WORDS:** Kidney transplantation, Quality of life, Factors affecting.

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### INTRODUCTION

In recent years, in immunosuppressive and antimicrobial treatment, the developments provided in surgery and control of the infections made kidney transplantation the most preferable and successful treatment method.<sup>1-3</sup> Renal transplants eliminate many limitations from dialysis and can improve the patient's quality of life. However, after transplantation the patient must lead a

controlled and disciplined life. There may also be regular follow up, the use of immunosuppressive medicine throughout the rest of the patient's life, and the possibility of infection, an increased chance of tumor growth, and the possible need for hemodialysis due to acute and chronic rejection.<sup>4-6</sup> Physical, psychological and social changes which transplantation caused in the patient has led to the discussion about quality of life of these people. People are no longer interested in the length of life; they are interested in quality of life.<sup>7</sup>

The nurses' have responsibilities about protection and improvement of quality of life. While these responsibilities are dealt with, it is necessary to determine the quality of life and the factors affecting it. These factors have constantly changed, depending on the changes in the limits of individuals physical, intellectual or economic status. When any deviation happened in individual's health, the satisfaction they took from the life may impair. Hence the role and aim of nursing is to help to the patient,

1. Mehtap Curcani, MSc,
2. Mehtap Tan, PhD,  
Associate Professor,
- 1, 2: Department of Internal Medicine Nursing,  
Ataturk University Health Science Faculty,  
Erzurum, Turkey.

#### Correspondence

Mehtap Curcani, MSc,  
Department of Internal Medicine Nursing,  
Ataturk University Health Science Faculty,  
Erzurum, Turkey.  
E-mail: m.curcani@hotmail.com

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and to provide his or her own care in a short time, and during this process, raise life satisfaction to a maximum level.<sup>7</sup> This study was carried out with the purpose of determining the factors affecting the quality of life of patients who have undergone kidney transplants.

## METHODOLOGY

The study was carried out in the nephrology polyclinic of the Yakutiye Research Hospital's School of Medicine at Ataturk University in Erzurum, one of Turkey's 23 kidney transplant centers, between the dates July and October of 2008. This center has been doing kidney transplants for four years, though the number of registered patients was only 44 people at the time of the study. Inclusion criteria were not having any current or previous psychiatric disorders, being cooperative and communicative, not having any hearing loss or loss of vision, being at least 18 years of age, and being followed-up in the Nephrology Outpatient Clinic of this university hospital.

During the study 44 patients had undergone kidney transplants and were registered in nephrology polyclinic. As two patients had seeing and hearing problems, the study followed only 42 patients.

Data collection was done through the use of a Short Form-36 (SF-36) quality of life scale and a questionnaire that determined the features of the patients, including their socio-demographic (age, gender, marital status, level of education, post-transplantation period, type of donor, receiving status information about postoperative process, complication and secondary disease situation). The data was collected by the researcher through one-on-one, face-to-face interviews and the questionnaires, which took around 15-20 minutes.

### *SF-36 Quality of Life Scale: Short Form-36 for Health Status:*

The SF-36 was developed by Ware<sup>8</sup> and translated into Turkish by Pinar.<sup>7</sup> SF-36 measures the following eight dimensions of health: physical functioning, role limitations due to physical problems, bodily pain, general health perceptions, vitality, social functioning, role limitations due to emotional problems, and mental health. We also analyzed the four summary scores of the SF-36: the functional status, well-being, general health perception, and global quality of life. The raw scale scores from global quality of life were linearly converted to a range of 0 (worst possible health status or quality of life) to 100 (best possible health status or quality of

life). The score of the subgroups and all eight scales, as well as the final global score, of the SF-36 ranged between 0 and 100, with higher scores indicating better health. The total Cronbach alpha parameter was determined as 0.94 and the alpha parameters of the sub-dimensioned Cronbach were determined as 0.89 for functional status, 0.90 for well-being, and 0.75 for general health perception.

The study was approved by the Ethical Committee of the Health Science Institute of the university and informed consent was obtained from each participant. The patients were informed of the aim of the study and were assured that they had the right to refuse to participate or to leave the study whenever they wished.

The data were coded, installed, and analyzed using the SPSS 15.0 pocket program. Percentages, Kruskal Wallis, Man Whitney U, and paired two-sample t-tests were used. We set the significance level at  $p < 0.05$ .

## RESULTS

The characteristics of patients are presented in Table-I. Of the 42 patients, 33.3% were at least 36 years of age, 59.5% were women, 66.7% were married, 47.6% had graduated from middle/high school, 44.4% had a post transplantation period of at least one year, and 83.8% had received transplants from living donors. It was found that 47.6% of patients didn't have adequate information about postoperative process, 90.5% of the patients didn't have a secondary disease, and 59.5% of the patients didn't have any complications after transplantation.

When the general quality of life average scores of the patients included in the study content were evaluated, it was found that functional capacity was  $53.24 \pm 21.18$ , well-being was  $66.02 \pm 11.65$ , general health perception was  $64.02 \pm 18.17$ , and the global quality of life was  $61.07 \pm 12.63$  (Table-II).

Comparison of quality-of-life scores related to characteristics of patients is given Table-III. The distinction between the average scores of the quality of life according to the age, the education level, secondary disease, complication situation and type of donor of the patients was statistically insignificant ( $p > 0.05$ ).

We found that the averages of the men participants were higher, and the distinction between the average scores of the global quality of life, general health perception, and well-being sub-dimensions of the patient according to gender was statistically significant ( $p < 0.05$ ).

Table-I: Characteristics of Patients.

<i>Socio-Demographic Details (n = 42)</i>	<i>n</i>	<i>%</i>
<b>Age</b>		
18-23	7	16.7
24-29	9	21.4
30-35	12	28.6
≥36	14	33.3
<b>Gender</b>		
Men	25	40.5
Women	17	59.5
<b>Marital status</b>		
Married	28	66.7
Single	14	33.3
<b>Level of education</b>		
Primary school	14	33.4
Middle/ High school	20	47.6
University	8	19.0
<b>Post transplantation period</b>		
≤1 years	20	44.4
2-6 years	16	35.6
7 years≤	6	20.0
<b>Receiving status information about postoperative process</b>		
Did receive	3	7.2
Did not receive	19	45.2
Did not receive adequate	20	47.6
<b>Secondary disease</b>		
Existent	4	9.5
Nonexistent	38	90.5
<b>Complication situation</b>		
Existent	17	40.5
Nonexistent	5	59.5
<b>Type of donor</b>		
Living donor	35	83.8
Cadaver donor	7	16.2

When the average scores for the quality of life was compared to marital status, it was found out that quality of life average scores of single patients were higher and that the distinction between the well-being sub-dimension average scores of the patients according to marital status was statistically significant ( $p < 0.05$ ).

According to study findings it was revealed that the post transplantation period they were found to be statistically insignificant ( $p > 0.05$ ), with the

exception of the general health perception sub-dimension.

When the average scores of quality of life and receiving status information about postoperative process were compared, it was found that the distinction between the average scores of the global quality of life, a patient's well-being, and their functional capacity were statistically significant ( $p < 0.05$ ).

## DISCUSSION

At the end of study, it was found that the general quality of life average scores of the patients were good, and that the averages were highest in the well-being sub-dimension. Rising quality of life is desired and expected result after kidney transplantation. In their studies, Fujisawa<sup>9</sup>, Tanriverdi<sup>10</sup>, Ogutmen<sup>11</sup>, Balaska<sup>12</sup>, and Yildirim<sup>13</sup> showed that quality of life of patients after kidney transplantation has increased.

The results of this study found that there was no statistically significant distinction between age and the average score of the quality of life, though average scores in between the ages of 18-23 were higher than other age groups. Fujisawa<sup>9</sup>, Balaska<sup>12</sup> and Chisholm<sup>14</sup> state that the quality of life scores of young patients who had undergone kidney transplants were higher than those of older patients. There are a number of studies indicating that there was a negative correlation between age and quality of life.<sup>5,13,14</sup>

We found out that the distinction between education level of the patients and quality of life score averages wasn't statistically significant, but that quality of life score averages of the patients whose education levels are high were found higher ( $p > 0.05$ ). Yildirim<sup>13</sup> found out that the correlation between education level and quality of life was significant, but Ogutmen<sup>11</sup>, and Ustundag<sup>15</sup> found out that the correlation between education level and quality of life was insignificant. Many similar studies found that, as the level of education increased, the quality of life increased.<sup>4,16-18</sup> In these studies, the

Table-II: Mean Scores of the SF-36 Quality of Life Scale of Patients (n=42)

<i>SF-36 Quality of Life Scale</i>	<i>X ± SS</i>
Functional Capacity	53.24±21.18
Well -being	66.02±11.65
General Health Perception	64.02±18.17
Global Quality Of Life	61.07±12.63

Table-III: Comparison of Quality-of-Life Scores Related to Characteristics of Patients.

<i>Characteristics of Patients</i>	<i>Functional Capacity</i>	<i>Well –being</i>	<i>General Health Perception</i>	<i>Global Quality of Life</i>
<b>Age</b>				
18-23	57.00±23.26	71.71±7.76	74.14±18.73	67.57±12.71
24-29	52.11±23.14	62.33±15.92	57.33±15.46	57.22±16.00
30-35	51.50±21.30	63.42±12.37	66.25±19.76	60.33±12.53
≥36	53.57±21.00	67.79±8.86	61.36±17.43	60.93±10.23
	KW:0.494	KW:2.95	KW:3.780	KW:2.476
	p>0.05	p>0.05	p>0.05	p>0.05
<b>Gender</b>				
Women	50.18±26.17	62.88±11.51	58.12±17.11	57.00±13.44
Men	55.32±17.30	68.16±11.49	68.04±18.10	63.84±11.50
	MWU:171.500	MWU:132.500	MWU:146.500	MWU:141.500
	p>0.05	p<0.05	p<0.05	p<0.05
<b>Marital status</b>				
Married	50.96±21.31	64.07±10.86	61.57±17.70	58.86±11.53
Single	57.79±20.94	69.93±12.59	68.93±18.76	65.50±13.97
	MWU:159.000	MWU:127.500	MWU:150.500	MWU:138.500
	p>0.05	p<0.05	p>0.05	p>0.05
<b>Level of education</b>				
Primary school	49.07±23.91	64.07±15.09	58.36±13.22	57.21±12.92
Middle/ High school	53.20±21.09	65.90±10.44	67.15±19.35	62.00±12.53
University	60.63±16.23	69.75±7.26	66.12±22.28	65.50±11.98
	KW:1.944	KW:2.233	KW:1.338	KW:2.702]
	p>0.05	p>0.05	p>0.05	p>0.05
<b>Post-transplantation period</b>				
≤1 years	48.35±22.78	62.13±13.59	55.33±17.63	59.19±13.22
2-6 years	57.44±20.95	67.50±9.16	58.13±16.43	62.35±13.32
≥7 years	58.33±14.40	71.50±12.11	71.35±17.55	61.83±9.5
	KW:1.270	KW:2.287	KW:6.285	KW:0.682
	p>0.05	p>0.05	p<0.05	p>0.05
<b>Receiving status information about postoperative process</b>				
Did receive	50.71±22.56	56.71±9.41	52.57±10.70	53.43±10.48
Did not receive	50.43±20.49	67.63±11.22	67.27±19.36	61.73±13.08
Did not receive adequate	73.60±14.27	69.40±12.70	60.60±13.10	67.80±8.28
	KW:5.412	KW:7.057	KW:3.773	KW:3.952
	p<0.05	p<0.05	p<0.05	p<0.05
<b>Type of donor</b>				
Living donor	55.74±20.41	65.60±12.37	61.71±17.05	61.00±12.43
Cadaver donor	40.71±22.07	68.14±7.35	75.57±20.57	61.43±14.65
	MWU:77.500	MWU:111.000	MWU:68.500	MWU:120.500
	p>0.05	p>0.05	p>0.05	p>0.05
<b>Secondary disease</b>				
Existent	43.50±19.90	65.75±3.59	64.50±21.00	57.75±10.43
Nonexistent	54.26±21.30	66.05±12.22	63.97±18.17	61.42±12.91
	MWU:58.500	MWU:72.500	MWU:75.000	MWU:63.000
	p>0.05	p>0.05	p>0.05	p>0.05
<b>Complication situation</b>				
Existent	46.95±16.58	66.50±12.45	64.95±20.66	59.45±13.20
Nonexistent	58.95±23.57	65.59±11.16	63.18±16.03	62.55±12.21
	MWU:152.000	MWU:215.500	MWU:205.500	MWU:192.500
	p>0.05	p>0.05	p>0.05	p>0.05

fact that different results have been reported makes us think that personal features of the individual along with level of education affected quality of life.

At the end of study, we couldn't determine a statistically distinction between secondary diseases and complications situation and the quality of life average scores ( $p>0.05$ ). This result is in accordance with the study carried out by Ozsaker and Ozbayir.<sup>19</sup> There was no statistical distinction between the type of donor and the quality of life average scores of the patients ( $p>0.05$ ). In their studies, Chisholm<sup>14</sup>, Ozsaker and Ozbayir<sup>19</sup>, and Griva<sup>20</sup> also determined that the donor being a cadaverous or living donor didn't affect a patient's future quality of life.

It was determined that the quality of life average scores of men patients were higher than those of women patients, and the distinction between gender and quality of life average scores, except for the functional capacity sub-dimension, were statistically significant ( $p<0.05$ ). Ogutmen<sup>11</sup> determined that quality of life of male patients was higher than that of female patients. Men are socialized differently from women, being taught to be more independent and self-controlled especially in Middle East cultures. Women are taught to be more emotionally expressive, dependent, and concerned with their physical appearance in order to be accepted by society.<sup>21</sup> In other similar studies, it was determined that the tendency toward depression in women patients increased after the transplantation and that their social supports were insufficient.<sup>22,23</sup>

It was also found that the quality of life average scores of single patients were higher than those of married patients, though the distinction between marital status and quality of life average scores, except for the well-being sub-dimension, is statistically insignificant ( $p>0.05$ ). This result is in accordance with the findings of similar studies.<sup>16,24,25</sup> The conclusion in this study makes us think that single individuals could take sufficient social support from their environment or families.

There was no significant distinction between quality of life average scores and the post transplantation period, except for the general health perception sub-dimension ( $p>0.05$ ). In their studies, Chen<sup>4</sup>, Chisholm<sup>14</sup>, and Ozsaker and Ozbayir<sup>19</sup> determined that the post transplantation period didn't affect the patient's quality of life. It was also found that the quality of life average scores were lowest the post transplantation period of at least one year of patients. This is an expected finding. Because, the risk of rejection within one year after transplant increase, patient must follow up frequently, immu-

nosuppressive treatment and its side effects compliance decreases quality of life of patients. Patients were entered general health related to a more stable period after one year transplantation.<sup>26</sup>

In our study, it was found that 47.6% of patients didn't have adequate information about postoperative process and the quality of life average scores in those who received information were higher than those didn't ( $p<0.05$ ). Many national studies in Turkey have revealed that most of the renal transplant patients had not been adequately informed regarding life before and after transplantation by the healthcare personnel.<sup>27,28</sup> In the patients who had undergone transplantation, patient education is a significant process inducing quality of life of patient and giving him responsibility for self care, after and before transplantation, having a value.<sup>29</sup> In their studies, Ozsaker and Ozbayir<sup>19</sup>, Sayin<sup>30</sup>, Ustun and Karadeniz<sup>31</sup>, and Ustundag<sup>15</sup> state that education given to the patients positively affected their quality of life.

## CONCLUSIONS

We found that the general quality of life average scores of the patients were good and receiving information about postoperative process, gender, marital status, and the post-transplantation period had a positive impacted he patients' quality of life. After transplantation, the agents which lower the quality of life can be determined. Health professionals can determine required strategies in order to improve life quality, and they may attempt for necessary efforts, because the individual whose life quality is high adapts to medical treatment well. In accordance with these results, it may be suggested that educational programs affecting the patients' quality of life should be organized, and that this study should be done in a wider context with patients who have undergone kidney transplants in different organizations. It is also suggested that the plans of nursing care should be prepared according to these findings.

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