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The Sources of Stress in Renal Transplant Patients

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Introduction

Renal transplant is the best treatment of choice for patients with end-stage renal disease (1). Annually, about 17000 patients receive deceased or living donor transplants, which help them promote health and self-efficacy (1-2).

However, despite advances in transplant technology, patients face a number of post-operative challenges, which might lead to stress in patients, including uncertainty about future health, costs and finances, side effects of medicinal treatment and medical follow-up; these factors might lead to low quality of life (3).

Previous studies demonstrated differences in transplant-related stressors. According to study by Veroux (2010), these stressors are perceived physical appearance, issues related to sexuality, anxiety, and even feeling guilt (4). Gill (2012) stated that concern over transplant outcome is another stressor for patients even years after transplantation (5).

Another study suggested that uncertainty about future and concern over the impact of transplant on physical and physiological health are the main stressors among patients. These stresses continue several years after transplant and lead to fear of graft rejection and hopelessness (6).

Several studies were conducted on the effects of stress on renal transplant outcome (5-10) based on which it is necessary for nursing staff to consider stress-generating factors to provide appropriate care for renal transplant patients and as a result, promote nursing clinical performance (7).

Culture and politics of care can affect type of stress; however, there is a scarcity of reports on this issue regarding renal transplant in Iran. Therefore, this study was conducted to evaluate the source of stress in renal transplant patients.

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Methods

This descriptive study was conducted on 236 patients in the Montaserieh organ transplant hospital in Mashhad, Iran, during December 2014-May 2015. The participants were chosen through convenience sampling. The sample size was calculated according to rate of transplant rejection that was 44% (9). The inclusion criteria were aged >18 years, not being hospitalized for transplant rejection, and two-month interval since renal transplant.

The data collection instrument was Transplant-Related Stressors Scale. The 17-item scale was developed by Frazier et al (1995). Before initiating the study, the scale was translated into Persian based on forward-backward method (11).

Items of this scale are categorized into five subscales assessing future health, finances, side-effects of medicinal treatment and physical limitations, interpersonal relations, and following the medical regimen. Patients are asked to determine each item stressful on a scale ranging from 1 (not stressful) to 5 (extremely stressful); therefore, the scoring range is 17- 68 (8).

Validity and reliability of the scale were established by Weng (2008) and Achille (2004) with CVI=0.9 and Cronbach's alpha=0.86 (3, 12). For the Persian version of the instrument, as estimated by expert panel, S-CVI score and Cronbach's alpha were 0.89 and 0.89, respectively.

The obtained data were exported into SPSS, version 15; the data were analyzed using descriptive and inferential statistics (analysis of variance and independent t-test).

To ensure confidentiality, participants' names were removed from the questionnaire and the questionnaires were coded by numbers.

Results

The majority of the subjects (65%) were male, aged between 18 and 60 years old (mean: 37±11.38 years), married (71.6%), and had basic education. Mean duration of being on renal transplant list was 38±44.71 months. Most subjects (56.8%) had undergone transplant less than two years before.

The most common stressor was fear of graft rejection and the least common stressor was getting medical questions answered (table 1).

The mean stress score in the male patients was 39.99±0.65 and in female was 38.40±9.98. This study used independent t-test to determine the effect of demographic variables on stress level. There were no significant differences between stress score and duration of being on the transplant waiting list (F=0.104, P=0.9) and duration of dialysis (F=0.694, P=0.5). However, there was a significant difference between stress score and age ((F=4.48, P=0.01) and marital statue (t=2.876, P=0.004) The highest stress scores were in ages less than 33 years old and the lowest stress scores were in ages more than 50 years.

Table1: Mean and standard deviation of the stressors in renal transplant patients

Items	Mean	Standard deviation
Fear of graft rejection	3.37	0.92
Financial pressure	3.01	1.00
Uncertainly about future health	2.68	1.04
Travelling for check-up	2.60	1.25
Physical limitation	2.43	1.05
Medicinal side effects	2.39	0.98
Lack of social support	2.38	1.01
Dietary restriction	2.32	1.10
Handling insurance	2.30	1.01
Dependency on medical personnel	2.24	1.15
Weight gain	2.17	1.06
Change in appearance	2.06	0.94
Being a burden to others	2.05	0.99
Susceptibility to other illnesses	1.96	1.06
Change in relationship with spouse	1.82	1.06
Getting medical questions answered	1.60	0.87

Discussion

The present study was conducted to determine the most common stressors in patients undergoing renal transplant. It was found that the main stressors in these patients were fear of graft rejection, financial issues, and uncertainty about future health. This result was not in agreement with study Frey (1990). He stated that the main stressor was fear of hospital readmission (7). The reason for this discrepancy might be the fact that Frey assessed stress during the first six weeks after transplant. Due to patients' unstable condition, particularly in the first few days after transplant, they were readmitted to hospital for creatinine level and renal function examinations; thus, this stressor will be ruled out after some time.

In line with our study, several other studies demonstrated that fear of graft rejection is one of the most important stressors (3, 5, 8, 13-14). Graft rejection threatens transplant patients' health and it implies undergoing dialysis and tolerating painful needles again. Renal transplant patients experience multiple stresses during dialysis such as awaiting organ transplant, financial pressure, and difficult process prior to receiving transplant.

According to the present study, a stress-generating factor related to liver transplant was financial pressure. Consistent with this result, Frazier (1995) showed that an important stressor in patients was financial pressure due to giving repeated tests, visits, follow-up issues(8). Despite consensus on financial pressure, the cost of insurance was not one of the stressors in some studies such as Chen (2010).

He stated that financial issues were not a significant concern in Taiwan. The Taiwanese have national health insurance; therefore, patients are only responsible for a small portion of the costs (6). However, since financial problems are one of the important stressors in countries like Iran, where transplant patients are directly responsible for treatment costs and health insurance is responsible for only a small portion of the costs.

In this study, uncertainty about future health was the third highly frequent stressor among the patients. McCormick (2002), quite consistent with our results, stated that uncertainty about future health was a major stressor in transplant patients, which can hinder recovery after renal transplant. Although, patients have learned some coping strategies for the post-transplant period, they are concerned about future health, returning to dialysis (15).

In the present study, fear of graft rejection was not the main stressor, the reason for which might be the religious and spiritual beliefs of Muslim patients. Muslims deem Allah as an omnipotent and all-knowing being, which results in accepting their fate with satisfaction.

According to the results, there was no significant difference between stress score and the length of post-transplant time; thus, passage of time after transplant cannot affect severity of stress.

Chen (2010) proposed that one year after transplant, the patients experienced lower level of stress; however, disregarding post-transplant time, stress continued to some extent (16). Kong (1999) demonstrated that renal transplant patients may experience stress of moderate intensity long after transplant (17). It is possibly reason that the problem related post time transplant is continuing, the stress factor related to transplant is continuing(18).

Implications for Practice

Disregarding the outcome of renal transplant, patients experience stress during post-transplant period. There are differences in type and severity of stress-generating factors depending on culture, health care system, insurance support, and religion.

These stressors can deteriorate patients' physical, psychological, social, and spiritual condition; therefore, identifying and managing these stressors is important. Determination of transplant patients' perception of stressors can help nurses promote patient outcome. Nursing staff are recommended to employ evidence-based practice to identify vulnerable patients and provide appropriate care for patients.

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Conflict of interest

The authors declare that there is no conflict of interest.

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