Patient Attitudes Toward Transplantation as Preferred Treatment Modality in Different Stages of Renal Disease


Division of Behavioural Sciences, Faculty of Public Health, University of Debrecen, Debrecen, Hungary; Department of Research Methodology and Statistics, Institute of Sectorial Economics and Methodology, Faculty of Economics and Business, University of Debrecen, Debrecen, Hungary; Fresenius Medical Care, Miskolc, Hungary; B. Bruan Avitum Hungary Zrt., Nyíregyháza, Hungary; Fresenius Medical Care, Debrecen, Hungary; and Clinical Centre, Institute of Surgery, Department of Transplantation, University of Debrecen Hungary, Debrecen, Hungary

ABSTRACT

Objective. Kidney transplantation is generally considered to be the best treatment for end-stage renal disease. Not every patient can be operated, but many of suitable patients refuse this possibility. We aimed to explore the attitudes of patients with chronic kidney disease towards renal replacement therapies to recognize motives, thoughts, and feelings concerning accepting or refusing the treatment. We studied the attitudes towards the illness and the treatment, the appearance of depression, and the disease burden during different stages of the disease.

Methods. For this study we implemented a questionnaire that we developed (which has been described in an earlier publication of this journal) with 99 pre-dialysis patients, 99 dialysis patients, and 87 transplantation patients. We completed the attitude questionnaire designed by our team to include disease burden and depression questionnaires.

Results. We used discriminant analysis to describe different stages of the disease. There was a significant difference in the following factors between the three patient groups: accepting the new kidney, lack of confidence in transplantation therapy, fear of surgery, accepting self-responsibility in recovery, dependency on the transplanted kidney, confidence in recovery, subjective burden of dialysis, and denial of personal responsibility in maintaining the transplanted kidney. Significant differences were also detected in these three groups regarding the level of depression and disease burden: we measured the highest value among the dialysis patients, and the lowest value among the pre-dialysis patients. Comparing patients accepting and refusing transplantation, we found a correlation between the refusal of transplantation and the attitudes towards the illness and treatment.

Conclusions. Most patients remain unmotivated to change treatment modality and refuse transplantation. Misbelief about transplantation shows a correlation with the motive of refusal. Dissemination of information may facilitate a change in the situation.

CHRONIC kidney disease is a worldwide public health problem. In Hungary, the number of chronic patients in need of dialysis grows every year similarly to that of the industrialized countries [1]. Of the renal replacement therapies available today, transplantation has been proven to be the optimal solution both with respect to life expectancy and quality of life; however, several patients have doubts about kidney transplantation [2]. Despite the excellent results of Hungarian kidney transplantation programs and the numerous advantages of transplantation, many patients, who could clinically undergo surgery, choose to remain on

*Address correspondence to Amanda Illés, Division of Behavioural Sciences, Faculty of Public Health, University of Debrecen, Egyetem tér 1, 4032 Debrecen, Hungary. E-mail: tyepkov@gmail.com
dialysis [3]. This phenomenon may be fueled by psychological factors, misbeliefs, and preconceived feelings regarding the concept of transplantation. From the period of pre-dialysis, patients are provided very little information regarding the factors influencing decisions about renal replacement therapies [4]. The preference of patients for transplantation is a strong predictor of inclusion in the waiting list [5], and the pre-emptive transplantation results in an even more favorable patient and graft survival [6,7]. Therefore the survey and possible improvement of attitudes during the period of pre-dialysis may be necessary. Despite the importance of the topic, there are only few studies in the international literature surveying the attitudes of the patients toward transplantation [8]. The increased negative perception of the effects of the illness is associated with increased mortality [9].

OBJECTIVE
In this study we explored the attitudes of patients with chronic kidney disease toward some renal replacement therapies to recognize attitudes, thoughts, and feelings that are considered when accepting or refusing treatment. For the measurement of these factors we designed an attitude questionnaire in our earlier study [10]. Furthermore, we studied the extent of depression and disease burden in these patients, which may influence decisions regarding treatment and the process of recovery through the experience of the illness.

PATIENTS
In our study, 285 patients with renal disease (99 pre-dialysis patients, 99 dialysis patients, and 87 transplantation patients) participated. We performed the study among patients regularly seen in dialysis centers, nephrology clinics, and in the outpatient division of the Transplantation Centre at the University of Debrecen in Hungary. The average age of these patients was 54 ± 14.58 years. The distribution of genders in the study was proportional (128 females, 157 males).

METHODS
In our previous study we designed a questionnaire suitable for measuring attitudes toward transplantation. The attitude questionnaire serves for measuring the following 8 factors: confidence in recovery, negative effects of dialysis on the quality of life, lack of confidence in the transplantation, refusal, anxiety during preparing for the transplantation, difficulty in accepting the transplantation therapy, fears related to living-donor transplantation, acceptance of transplantation, and curiosity about the cadaveric donor [10].

Our questionnaire is designed to specify three sub-samples in this study: end-stage renal patients, dialysis patients, and transplantation patients (see later). To describe the different stages of the disease, we used discriminant analysis on the above factor structure. The results of the discriminant analysis were combined with the Student t test and the analysis of variance (ANOVA) test. In this study we used Disease Burden Index and the abbreviated Beck Depression Inventory for the measurement of patient depression and disease burden.

RESULTS
Differences in Attitude Questionnaires
According to our objective, we explored the differences between the three patient groups and the features specific for different patient groups. First, we performed nonparametric statistical tests between the single items of attitude questionnaire to separate the contents which differentiate and those which are equal in the three patient groups. Differentiating attitude contents show the specific features of disease stages, whereas common attitude contents describe the general characteristics of patients with renal disease. We performed the principal component analysis both in differentiating and the common attitude contents, which resulted in the following.

Common Attitudes Specific for Patient Groups
Factors used to determine patient attitudes included 1) Curiosity about the identity of the cadaveric donor; 2) Feelings of guilt towards the living donor; 3) Uncertainty caused by the disease; 4) Confidence in the treating/operating physician; 5) Confidence in the transplantation therapy; 6) Refusal of transplantation through refusing a specific donor; 7) Acceptance of the new kidney; 8) Disability caused by dialysis; and 9) Risk associated with surgery.

Differentiating Attitudes Specific for the Stages of the Disease
Factors used to determine patients’ differentiating attitudes specific for the stages of disease included: 1) Lack of confidence in transplantation therapy; 2) Belief in recovery; 3) Fear of surgery; 4) Acceptance of disadvantages/discomfort after transplantation; 5) Subjective burden associated with dialysis; 6) Denial of personal responsibility in accepting the transplanted kidney; and 7) Acceptance of personal responsibility in recovery.

Tables 1 and 2 show the significant differences between stages revealed by discriminant analysis which were controlled/checked by ANOVA and Student t test.

Factor scores are formed for each patient by a linear regression of the attitudes that belong to the given factor. The factors are normally distributed with 0 mean and unit standard deviation. For this reason factor scores can change between ±1 and −1. The 0 value marks the situation when the specific attitudes on the factor are evaluated by the

| Table 1. Differentiating Effect of Factor Group Between Pre-dialysis and Transplanted Patients |
|------------------------------------------|----------------|----------------|----------------|
| Factor                                | Pre-dialysis* | Transplant*    | P Value (t-Statistic) |
| Acceptance of the new kidney          | −0.249        | 0.170          | .005 (2.81)        |
| Lack of confidence in transplantation therapy | 0.225        | −0.314         | <.001 (4.13)       |
| Fear of surgery                       | 0.189         | −0.300         | <.001 (3.32)       |
| Self-responsibility in recovery       | −0.269        | 0.591          | <.001 (6.46)       |

*Factor scores.
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