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Assessment of Quality of Life in a Single-Center Transplantation Population Using the Kidney Transplant Questionnaire-25 Questionnaire

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ABSTRACT

Background. The Kidney Transplant Questionnaire (KTQ) is a quality-of-life instrument designed specifically for renal transplant recipients.

Aim. The purpose of this work was to evaluate the validity and reliability of a Persian translation of the KTQ-25 questionnaire as a tool for use in Iran and also to compare the quality of life between dialysis and transplant patients.

Method. We collected 143 subjects in a cross-sectional study. Their mean age was 40.3 ± 13.3 years (range = 15–72). All KDQ-25 scales met the criteria for internal consistency (Cronbach's alpha ranged from 0.8–0.95) and in construct validity, the correlation coefficient between 5 scales and the total scale was also acceptable (0.84–0.91). Furthermore, significant correlations were detected between the scales ($P < .001$).

Results. The mean total score was 2.8 ± 1.4 (range = 5.8–1.5). The best mean score observed in uncertainty and fear item was 3.1 ± 1.6 (range = 0.5–7), while the lowest was detected in the emotional item, 2.4 ± 1.3 (range = 0.17–6). Mean follow-up was 50.1 (range = 1–264) months. The most common physical problem was aching, tired legs in 77 (55%) subjects. In comparison between dialysis and transplant patients using the standard Iranian version of Kidney Disease Quality of Life (KDQOL) questionnaire, the total and disease-specific scores for dialysis patients were significantly better than the total score in the KDQ-25 (55.8 ± 14 vs 40.7 ± 20.2, $P = .000$) and (49.7 ± 15.8 vs 40.7 ± 20.2, $P = .000$), respectively.

Conclusion. Considering its validity and reliability, the Persian version of KTQ-25 questionnaire may be useful to assess the health-related quality of life among Iranian transplant recipients.

SOME TOOLS have been developed to measure health-related quality of life in various populations. In general, these tools can be grouped into two categories: generic and disease-specific scores. A disease-specific score is a more sensitive instrument because it focuses on a clinical condition. It improves the quality-of-life appraisal. The Kidney Transplant Questionnaire (KTQ) is a disease-specific questionnaire that quantifies five important quality-of-life dimensions among renal transplant recipients including: physical symptoms; fatigue uncertainty/fear; emotional and appearance.[1] The purpose of this work was to evaluate the validity and reliability of a Persian translation of the KTQ-25 questionnaire as a tool for use in Iran providing comparisons of quality of life among dialysis versus transplant patients.

METHODS

Two skilled translators translated the English original version of the KTQ into Persian. Subsequently two back-translations were prepared by US native translators for comparison with the original English version. The final version of the Persian questionnaire was approved after evaluation by a group of nephrologists and dialysis nurses. At first, a pilot study was performed on 20 randomly selected recipients. We assessed and modified obscurity and complexity of the instrument. In addition we obtained informed consent from each participant.

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Table 1. Mean Scores, Corresponding Standard Deviations (SD), and Cronbach alpha of the KTQ Dimensions

	Mean ± SD	Cronbach alpha
Physical symptom	3 ± 1.8	0.93
Fatigue	2.7 ± 1.4	0.81
Uncertainty/fear	3.1 ± 1.6	0.81
Appearance	2.9 ± 1.6	2.9 ± 1.6
Emotional	2.4 ± 1.3	0.80
Total	2.8 ± 1.4	0.95

In a cross-sectional study 143 randomly selected recipients of mean age 40.3 ± 13.3 years (range = 15–72) completed KTQ-25 questionnaires, while 21 patients refused to complete it. All KTQ-25 scales met criteria for internal consistency (Cronbach's alpha range 0.8–0.95) and for construct validity (0.84–0.91). Also a significant correlation was detected between the five KTQ-25 scales ($P < .001$). Additionally, 140 dialysis patients completed the Persian version of KDQOL-SF for health-related quality of life measurement.

Statistical Analysis

The original version of KTQ-25 has 25 items categorized in five domains including: physical symptoms ($n = 6$), fatigue ($n = 5$), uncertainty/fear ($n = 4$), appearance ($n = 4$), and emotional ($n = 6$). Every item has a Likert scale with seven potential answers, numbered from 1, representing the worst scenario, to 7, representing the best scenario. In this study, validation and internal consistency of the translated KTQ-25 (measured by the Cronbach alpha) and construct validity were measured by correlation coefficients between KTQ dimensions (r coefficient). SPSS version 17.0 was used for data analyses. Categorical variables were expressed as numbers and percentages, while continuous ones, as mean values ± standard deviations. Proportions were compared by chi-square and Fisher exact tests. Continuous variables were compared using Student t test.

RESULTS

Mean of total score for KDQ-25 was 2.8 ± 1.4 (range = 1.5–5.8). The best mean score was observed in the uncertainty and fear item of 3.1 ± 1.6 (range = 0.5–7), while the lowest was detected in the emotional item, 2.4 ± 1.3 (range = 0.17–6). Mean follow-up was 50.1 months (range = 1–264). The mean scores, corresponding standard deviations, and Cronbach alpha of the KTQ dimensions are summarized in Table 1

The most common physical problem was aching, tired legs ($n = 77$; 55%). Comparisons between dialysis and transplant patients using the standard Iranian version of KDQOL questionnaire showed significantly better total scores in KDQOL and disease-specific score among dialysis patients than the total score in KDQ-25 (55.8 ± 14 vs 40.7 ± 20.2, $P = .000$) or (49.7 ± 15.8 vs 40.7 ± 20.2, $P = .000$), respectively.

DISCUSSION

In contrast to many published studies,[2–7] we found health-related quality of life in end-stage renal disease patients was better than recipients, a discrepancy that may result from a great difference in health-related quality of life assessment tools. We enrolled recipients who came to clinic for follow-up; therefore, some of them had recently received an allograft and some, had been operated for a long time. We guess this conflict resulted from the population heterogeneity. Early months after transplantation are critical, because a wide variety of complications, such as infections, acute rejection episode, posttransplantation diabetes mellitus, drug interactions, hyperlipidemia, and anemia, may be present, thus affecting, mean scores.

In conclusion, considering its validity and reliability, the Persian version of KTQ-25 questionnaire can be a useful tool to assess the health-related quality of life among Iranian renal transplant recipients.

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