

Health- Related Quality of Life among Patients with Kidney Transplant in Saudi Arabia

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Abstract: Kidney transplantation is generally accepted as the best treatment both for quality of life and cost effectiveness. Kidney transplantation is by far the most frequently carried out transplantation globally. The main aim of this study was to identify the level of health- related quality of life among kidney transplant patients in Saudi Arabia.

Methods: A cross-sectional study was conducted in kidney transplant outpatient clinic in the Prince Sultan Military Medical City, Riyadh, Saudi Arabia on 214 Kidney Transplant Patients. Arabic version of short form (SF-36) questionnaire was adopted from world health organization (WHO) to collect data related to quality of life. The questioner comprised for main parts: patient's socio-demographic characteristics; patient's health history; and quality of life assessment tool which cover all aspects of Health Related Quality of Life (HRQOL).

Results: The study results revealed that the quality of life domain which got the highest mean score is the domain of "Physical health interferes with social activities" with a mean percentage (85.0%). Following by the second highest domain of "mental health" with a mean percentage (82.33%). On the other hand, the quality of life domain which got the lowest mean score was the domain of "Perception of health" with a mean percentage 59.90%.

Conclusion: The quality of life for kidney transplant patient in Saudi Arabia was satisfactory. An updated nursing curricula and patient teaching strategies to promote a kidney transplants patient self care management is strongly recommended.

Keywords: Kidney Transplant, Quality of life.

1. INTRODUCTION

Chronic kidney disease (CKD) is a major health problem in Saudi Arabia. The number of people requiring kidney replacement therapy in Saudi Arabia is growing, which poses challenges for health professionals and increases the burden on the health care system (Almutary et al., 2013). Kidney transplantation is the best treatment modality for end stage renal disease (ESRD), because it improves the patient's quality of life and is cost effective (Ghadian et al., 2012).

In Saudi Arabia, the number of patients who already have a kidney transplant is 36% of all ESKD patients (Saudi Center for Organ Transplantation "SCOT", 2011). Kidney survival rates are better when the purpose of kidney transplantation is to achieve a maximal improvement in the patient's quality of life, while minimizing the potential side effects of this procedure. Also, it is important to achieve an optimal balance between graft function and the patient's QoL. So, those patients with end-stage renal disease who receive a kidney through transplantation enter a new phase in their illness trajectory (Schmid-Mohler, 2011).

The patient's life after kidney transplantation has many different negative aspects, these aspects include but are not limited to: side effects of his/her strict regimen of immunosuppressive drugs, periodic infections and anxiety associated with fear of rejection episodes (Kovacs et al., 2011). Therefore, one of the most important issues for the future of transplantation is to more clearly specify the full range of personal, environmental and clinical factors that negatively influence the outcomes of patient's health related QoL. A better understanding of the role of these factors is essential to develop interventions that maximize the HRQOL in the context of transplantation (Kostro et al., 2016).

The World Health Organization (WHO) prioritizes health related QoL improvement for people living with chronic diseases, End-stage renal disease patients were concerned by a specific WHO program (Gentile et al., 2013). Kostro et al. (2016) conducted a prospectively study on 69 patients to assess the changes in the QoL after kidney transplantation. The study showed significant differences in many parameters of QoL in both groups after kidney transplantation and there was improvements in the patient's QoL (Kostro et al., 2016).

Several studies have revealed that health related QoL is better in patients with kidney transplantation compared with dialysis patients and that graft loss is associated with a worsening health related QoL (Maglakelidze et al., 2011). In a meta-analysis involving hemodialysis, peritoneal dialysis, and kidney transplantation patients, the authors concluded that transplant patients had and improved health related QoL, but not as remarkable as expected after adjustment for age and presence of diabetes (Kostro et al., 2016).

Although the quality of life for patients with renal transplantation is well established, large differences of quality of life are often observed among these patients. Life after renal transplantation presents negative aspects as well, such as a strict regimen of immunosuppressive drugs and its related side effects, frequent medical visits, infections, the uncertainty and anxiety concerning rejection episodes and potential loss of the graft (Kovacs et al., 2011). Therefore, one of the most important issues for the future of renal transplantation is to more clearly specify the full range of personal, environmental and clinical factors that negatively influence the patients' quality of life. A better understanding of the role of these factors is essential to develop interventions that maximize the patients' quality of life in the context of transplantation (Xie et al., 2017). Therefore, the main aim of this study was to assess health-related quality of life among patients with kidney transplant in Saudi Arabia.

2. MATERIALS AND METHODS

A quantitative cross-sectional design was adopted for this study. A convenience sampling method was applied after calculation using power analysis using Stephen Thompson formula on 214 of kidney transplant patients who are more than 17 years old in the Prince Sultan Military Medical City in Saudi Arabia. Patients who had another organs transplantation (e.g., liver, pancreas, and stem cell); and the patients who have a failed graft i.e. the new kidney transplant is failed (requires dialysis support) have been excluded from participation in this study.

Arabic version of short form (SF-36) questionnaire was adopted from world health organization (WHO) to collect data related to quality of life. The questioner comprised for main parts: patient's socio-demographic characteristics; patient's health history; and quality of life assessment tool which cover all aspects of Health Related Quality of Life (HRQOL). HRQOL has eight domains assessing; 1) physical functioning, 2) role limitations due to physical health problems, 3) Role limitations due to emotional problems, 4) energy or fatigue, 5) bodily pain, 5) Emotional well-being, 6) Social functioning, 7) Pain, and 8) General health, (Research and Development "RAND", 2017). No permission was needed to use this tool since it is a public tool.

Regarding calculating the quality of life among patients, the maximum mean score for each domain calculated by multiplying the maximum score of each item by the number of questions of the domain. Mean percentage was calculated by dividing the mean score of each domain on the maximum score for the domain itself. All the patients came for a routine checkup in the kidney transplant outpatient clinic were interviewed by the research to identify the patient who are met the inclusion criteria of the study and the aims of the study were discussed. Patient's participation in the study was voluntary, confidential and a written informed consent was signed by the patient before starting to fill the self administer questionnaire.

Data was analyzed statistical package for social sciences (SPSS) version 20. Descriptive statistics including frequencies, means, and standard deviations were used to summarize patient's baseline data and describe the distribution of responses. Mean, frequencies, and mean percentages to illustrate the health-related quality of life of patients for each domain (1) physical functioning, 2) role limitations due to physical health problems, 3) Role limitations due to emotional problems, 4) energy or fatigue, 5) bodily pain, 5) Emotional well-being, 6) Social functioning, 7) Pain, and 8) General health).

3. RESULTS

Demographic characteristics of the study sample was done and it was shown in the tables. More than half (57.0%) of the study participants were males, while 43.0% of them were females. Also, 55.6% of the study participants were 25 – 50 years and 37.5% were more than 50 years old. Moreover, 72.4% of the study participants were married, and 16.4% were singles. On the other hand, 96.7% of the study participants were living with their families, while the rest (3.3%) were living alone. Additionally, 34.6% of the study participants; have university degree education, 24.8% of them have secondary school, and only 17.8% have illiterate. (Table 1).

Regarding working status, income, and health Insurance of patients, more than half (61.7%) of the study participants were not working, 58.9% of them have sufficient expenses for treatment and family, while 41.1% have insufficient expenses for treatment and family. In addition, the majority (79.9%) of the study participants did not have health insurance, and 14.0% of them have had incomplete health insurance. On the other hand, 91.6% of the study participants were not smokers, and 8.4% were smokers (Table 2). Regarding current medical history of the patients, 68.7% of the study participants were on hemodialysis, 15.0% of them were on peritoneal dialysis. Also, donors of 47.7% of the study participants, and 35.5% of them have outside family donors (Table 3).

Regarding the quality of life among patients with kidney transplant, the study results revealed that the quality of life domain which got the highest mean score is the domain of “Physical health interferes with social activities” with a mean percentage 85.0%. The second highest domain is the “mental health” with a mean percentage 82.33%. On the other hand, the quality of life domain which got the lowest mean score is the domain of “Perception of health” with a mean percentage 59.90%. The second lowest mean score is the domain of “Feelings in the past 4 weeks” with a mean percentage 71.40%. The total man score of the quality of life for kidney transplant patient is 105.39 out of 144 with mean percentage 73.18% (Table 4).

Table 1: Sample Distribution According to the Participants’ Gender, Age groups, and Marital Status and Educational Level (n=214)

| Variables | | Number | % |
|---------------------|--------------------|--------|------|
| Gender | Male | 122 | 57.0 |
| | Female | 92 | 43.0 |
| Age groups | <25 years | 14 | 6.5 |
| | 25-50 years | 119 | 55.6 |
| | >50 years | 81 | 37.9 |
| | More than 50 years | 7 | 1.6 |
| Marital status | Single | 35 | 16.4 |
| | Married | 155 | 72.4 |
| | Divorced | 10 | 4.7 |
| | Widowed/er | 14 | 6.5 |
| Living arrangements | Family | 207 | 96.7 |
| | Alone | 7 | 3.3 |
| Educational Level | Illiterate | 38 | 17.8 |
| | Below secondary | 49 | 22.9 |
| | secondary | 53 | 24.8 |
| | University | 74 | 34.6 |

Table 2: Sample Distribution According to the Participants’ Working Status, Income, and Health Insurance (n=214)

| Variables | | Number | % |
|----------------|--|--------|-------|
| Working status | Working | 82 | 38.3 |
| | No | 132 | 61.7 |
| Income | Sufficient expenses for treatment and family | 126 | 58.9 |
| | Insufficient | 88 | 41.1 |
| | Total | 214 | 100.0 |

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|-------------------------|-----------------------------|-----|------|
| Health Insurance | No | 171 | 79.9 |
| | Incomplete health insurance | 30 | 14.0 |
| | Complete health insurance | 13 | 6.1 |
| Smoking | No | 196 | 91.6 |
| | Yes | 18 | 8.4 |

Table 3: Current Medical History of the Patients (n=214)

| Variables | Number | % | |
|-------------------------|------------------------------------|-----|------|
| Type of dialysis | Hemodialysis | 147 | 68.7 |
| | Hemodialysis + Peritoneal dialysis | 14 | 6.5 |
| | Peritoneal dialysis | 32 | 15.0 |
| | Non | 21 | 9.8 |
| Donor | Family | 102 | 47.7 |
| | Outside the family | 76 | 35.5 |
| | Deceased | 36 | 16.8 |

Table 4: Summery of the Mean and mean Percentage of each Quality of Life Domain

| No | Area | Max score | Mean | Mean % |
|----|--|-----------|--------|-------------------|
| 1 | Physical functioning | 10 | 8.09 | 80.9 ^a |
| 2 | Role limitations due to physical health | 30 | 22.56 | 75.2 |
| 3 | Role limitations due to emotional problems | 8 | 6.16 | 77.0 |
| 4 | Energy/fatigue | 6 | 4.94 | 82.33 |
| 5 | Emotional well-being | 5 | 4.26 | 85.20 |
| 6 | Social functioning | 6 | 4.71 | 78.50 |
| 7 | Pain | 5 | 4.10 | 82.0 |
| 8 | General health | 54 | 38.56 | 71.40 |
| | Total | 144 | 105.39 | 73.18 |

^a Calculated by dividing the mean score on the maximum score

4. DISCUSSION

The total man score of the quality of life for kidney transplant patient is 105.39 out of 144 with mean percentage 73.18%. if we have a look on these results, we can say that the mean score of the QoL of the patients is satisfactory, this could be attributed to the kidney transplantation, in which the patient who have had kidney transplant; have more satisfaction about the life in terms of walking, physical activities, sleeping, and etc.

These results are consistent with the results of De Pasquale et al. (2014) which revealed that the transplantation results in a significant improvement in expectations and quality of life. Also, Das et al. (2014) revealed that kidney transplant patients have the possibility of rejection are constant. On the other hand, Kamran and Schaw (2017) revealed that the health outcomes of kidney transplant vary largely and not all recipients have a positive experience reporting a poor quality of life. Also, Rodrigue et al. (2011) in their study found, it is possible to improve quality of life, psychological functioning and social intimacy with quality of life therapy in patients with end stage renal disease who are awaiting kidney transplantation.

Additionally, the current study results are consistent with the results of Pasquale et al., (2014) which revealed that the transplantation results in a significant improvement in expectations and quality of life, even if possible adaptation difficulties may be present such as psychopathological disorders, problems with compliance and adherence to treatment protocols. Moreover, this study results are also consistent with the results of Ortiz et al. (2014) which revealed that the transplant patients had improved health related QoL. Czyzewski et al. (2014) revealed that there were higher scores of health-related QoL among post-kidney transplantation patients.

Regarding the QoL domains, especially physical health domain, Bellizzi et al. (2014) revealed that the there was a strong correlation between physical performance and clinical, mental and social outcomes has been the thrust to develop tools aimed at quantifying physical performance in patients on regular dialysis treatment. Also, the current study results are in

line with the results of Mazzoni et al. (2014) which revealed that the physically active kidney transplant scored more highly in areas including physical functioning, general health, and mental health as compared with sedentary kidney transplant and did not differ greatly from active healthy controls.

On the other hand, the current study results are not consistent with the results of Pasquale et al. (2014) which revealed that kidney transplantation can result in a psychosomatic crisis that requires the patient to mobilize all bio-psycho-social resources during the process of adaptation to the new foreign organ which may result in an alteration in self-representation and identity, with possible psychopathologic repercussions. Furthermore, the results of Fama et al. (2013) revealed that the social relationship modifications were not casual for absent and sporadic events and casual for frequent as well as in association with interpersonal relationship modifications.

5. CONCLUSION

The quality of life for kidney transplant patient in Saudi Arabia was satisfactory. Conducting like this study using a mixed method design and recruiting participants from different hospitals and cities in Saudi Arabia would provide additional insight about quality of life in the kidney transplant patient. An updated nursing curricula and patient teaching strategies to promote a kidney transplants patient self care management is strongly recommended.

Implications for Nursing Practice

Design a system for training a nurses aims to educate the patient about who they assess their quality of life and when the patient can seek medical and nursing advice to over affecting their quality of life.

Limitations of the study

Participants in this study were not randomly selected; therefore, it is of limited generalizability. Moreover, data collection represented a one-time collection point. Therefore, the answers may represent the context at that point in time, which may not be an accurate reflection of the state of the variable over time.

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