

Effect of Nurse-Led Self-Management Support Intervention on Quality of Life among Kidney Transplant Patients

Nurse-Led Self-Management among Kidney Transplant Patients

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ABSTRACT

Objective: To find out the impact of nurse-led self-management support interventions on quality of life among kidney transplant patients.

Study Design: Quasi experimental study

Place and Duration of Study: This study was conducted at the Rukhsana Akhtar Bahria International Orchard Hospital Lahore, Pakistan from June, 2021 to October, 2021 for a period of 05 months.

Materials and Methods: Thirty-six patients were selected by using purposive sampling technique. After taking informed consent all kidney transplant patients aged between 18 years to 60 years, visited the post-transplantation OPD and continuously in follow-up sessions were included.

Results: The mean age was 31.44 ± 9.31 with 55.6% females. 27.8% can read/write and 52.8% belongs to urban area. 69.44% of donors were non-relatives. There was significant difference in the KDQOL before and after 4 month intervention. Over all their general health remain same after transplantation ($p > 0.05$) but there physical function, emotional function, social function, daily activities and physical and emotional problems showed significant difference after intervention ($p < 0.05$). 11.1% participants were having excellent quality of life and but after intervention it has increased to 44.4% ($p < 0.05$).

Conclusion: Nurse led self-management program had significant impact on increasing the quality of life of kidney transplant patients. Nurses are the important factor for educating patients which can lead to significant change in their behavior and quality of life as well.

Key Words: Renal Diseases, KDQOL, Self-management, Kidney transplantation

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INTRODUCTION

Kidney transplantation is the best choice for end-stage renal disease patients. End -stage renal disease or chronic kidney disease is one of the chronic conditions contributing to the major part of the global prevalence of the non-communicable disease, and reduced kidney function indicate by GFR of less than 60 mL/min per 1.73 m^2 , as a minimum 3 months period, irrespective of the underlying cause.¹ Chronic kidney disease is a universal matter of concern that affecting around 15% of the population globally.²

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In Asian countries, the prevalence of CKD is very high and China shows the highest with 18.3%, Taiwan 9.83%, 10.6% in Nepal and 23.3% in Pakistan.³ In Pakistan, an estimated prevalence rate of end stage kidney disease is 100 per million populations. Kidney transplant rate is 8-10 cases per million populations, 10% of patients are on hemodialysis, 3% undergo peritoneal dialysis.⁴

However, kidney transplant patients have to be compelled to adhere to a lifelong follow up, and optimum self-management is important for enhancing the quality of life whereas this has direct to an improving interest in optimizing patients' self-management skills.⁵ In comparison to dialysis, kidney transplantation is the preferred care option for patients with end-stage renal disease since it provides greater quality of life.⁶

When more patients live with chronic illnesses and comorbidities, there is a growing emphasis on efficient self-management and streamlining quality of life.⁷ Quality of life is a multi-dimensional concept that consists of domain names associated with physical, emotional, and social functioning and daily activities etc. Therefore, Quality of life is usually impaired in patients who have renal transplant because of renal

transplant patients have anxiety, lack of social, physical and emotional support and diminished ability to take care of themselves.⁸

After transplantation, kidney transplant patients need to learn to adapt to optimal physical function, changing emotional challenges and social roles.⁹ One of the most important roles of nurses is to assist patients with self-management during the post-transplant period, thereby improving quality of life in many areas, including physical function, social function, emotional function, physical and emotional problems, and daily activities.¹⁰ Moreover, Nurse Led self-management support intervention effect on kidney patients in terms of manage physical function, social and emotional function etc. Similarly, nurses play vital role in providing care to the patients but there is lacking of interventional studies on the impact of nurse led self-management support intervention on quality of life among kidney transplant patients. Literature suggests that nurses and patients have a lack of awareness and capacity when it comes to self-management and improving quality of life. But, after a nurse-led self-management support intervention, remarkable improvements in both quality of life and self-management skills can be made, leading to an increase in overall patient quality of life outcomes.¹¹ A descriptive post transplantation survey among the 60 patients managed by hemodialysis at the hospital of Andhra Pradesh, India found that Nurse led intervention shown the significant improvement in the knowledge of participants regarding self-care management effect.¹² Nurse Led Self-management support intervention will considerably enhance the quality of life among the renal transplant patients. Additionally, nurses play vital role in providing care to the patients therefore this study was conducted to find out the impact of nurse-led self-management support interventions on quality of life among kidney transplant patients.

MATERIALS AND METHODS

This quasi experimental study according to trend guidelines¹³ was conducted at Rukhsana Akhtar Bahria International Orchard Hospital Lahore, Pakistan from 1st June to 31st October 2021. The study was approved by the Institutional Board of University of Lahore. Thirty-six patients were selected by using purposive sampling technique. After taking informed consent all kidney transplant patients aged between 18 years to 60 years, visited the post-transplantation OPD and continuously in follow-up sessions were included in study. Terminally ill patients/hospitalized in Intensive care unit, having any comorbidity like uncontrolled diabetes mellitus, uncontrolled hypertension, cognitive limitations, acute psychiatric problems, mentally retarded, blind or deaf etc. and who will undergo dialysis or will predict to start dialysis within 3 months were excluded.

Intervention was divided into three phases. In first phase two nurses from kidney transplant unit of hospital was invited to participate in the study voluntarily (written consent taken), as a facilitator for data collection (pre-and post-assessment). Nurses received three training sessions pre intervention for data collection process. Nurses was then asked to recapitulate the material in their own words and the use the nurse led self-management support intervention, living a health life with chronic disease self-management skills guidance to facilitate comprehension and continuity. The training was dual-purpose; on the one hand, it comprised an explanation on how to collect data and on the other hand, nurses were trained in using intervention protocol techniques. After completion of training these two nurses collect the pre and post data from the participants. In second phase of intervention was applied on patients 16 weeks. Patient was introduced about the Nurse Led self-management support intervention for improving quality of life. Which includes taking care of the expected health problems by coping with challenges confidently, perform routine activities of their lives by improving physical activity, manage emotional changes like stress, anxiety, fear and depression, adopt the dietary modifications, manage the sleep pattern effectively, and maintain effective communication with family and colleagues. The study participants attended sessions on consecutive days. The duration of each session ranged between 45-60 minutes. At the start of each session researcher start by means of giving a summary approximately previous session and explaining the goal new one. Different strategies were used including brain storming, instructions, Videos, lectures, role playing and group discussions. In Phase III after 4-month of intervention post-test about Kidney transplants patient's knowledge of improving quality of life by self-management was collected through same instrument Kidney disease quality of life questionnaire KDQOL-36TM 16 varying dimension such as physical function, Social function, emotional function etc. was assessed through questionnaire.

Data will be entered and analyzed in SPSS-21. Paired sample T-test was applied to compare the scores of all the domains of quality of life i.e. physical functioning, social functioning, emotional functioning, physical and emotional problems and daily activities. P-Value ≤ 0.05 was considered as statistically significant.

RESULTS

The mean age of participants was 31.44+9.31 with 55.6% were females and 44.45% were male. Majority were married 27 (75.0%) and unmarried were 9(25.0%). Four (11.1%) were illiterate, 10(27.8%) were able to read or write, 8 (22.2%) have done matriculation, 6 (16.7%) participants had completed secondary level of education, 5(13.9%) were bachelors

and only 3(8.3%) were masters. In relation to residential area most of 52.8% were from urban area whereas 47.2% were from rural area. In relation to type of kidney donor most of 69.44% were non relative and 30.56% were relative (Table 1).

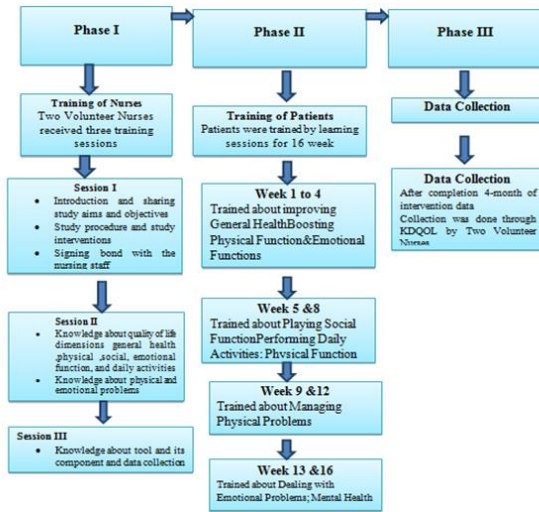


Figure No.1: Flow diagram of intervention

The mean score was significantly more than that before study group regarding all domains and total score except general i.e. 5.97±2.20 before intervention and 5.97±2.20 after intervention with a mean difference of 0.52±2.78; 16.72±2.92 before intervention and 21.64±1.42 after intervention with a mean difference of 4.92±3.25 (p<0.001); 15.50±3.87 before intervention and 23.19±2.54 after intervention with a mean difference of 7.69±4.63 (p<0.001); 17.64±4.08 before intervention and 24.94±2.43 after intervention with a mean difference of 7.31±4.33 (p<0.001); 23.14±4.52 before intervention and 28.89±3.45 after intervention with a mean difference of 5.75±5.49 (p<0.001); 28.39±2.57 before intervention and 32.52±3.75 after intervention with a mean difference of 4.14±5.05(p<0.001) and 107.36±10.14 before intervention and 137.69±5.90 after intervention with a mean difference of 30.33±11.85 (p <0.001) with respect

to general health, physical functioning, emotional functioning, social functioning, daily activities, physical and emotional problems and total score respectively (Table 2).

Table No.1: Demographic characteristics of patients

Variables	No.	%
Age	31.44±9.31	
Gender		
Male	16	44.4
Female	20	55.6
Marital Status		
Married	27	75.0
Unmarried	9	25.0
Education		
Illiterate	4	11.1
Read/Write	10	27.8
Matriculation	8	22.2
Secondary	6	16.7
Bachelor	5	13.9
Masters	3	8.3
Residential Area		
Urban	19	52.8
Rural	17	47.2
Type of kidney donor		
Relative	11	30.56
Non Relative	25	69.44
Post kidney transplantation length of time (years)		
Less than 1	8	22.22
1 to 3	19	52.78
4 to 6	6	16.67
Greater than 6	3	8.33

Table 3 shows the frequency and percentage of interpretation of KQDOL levels before and after the intervention which indicates that 50% participants had poor quality of life before the study whereas it decreases to 19.4% after the study, 38.9% had average quality of life before the study and afterwards it was 36.1%, and only 11.1% participants were having excellent quality of life and after the intervention it has increased to 44.4% (p=0.001).

Table No.2: Comparison of means scores regarding KQDOL domains among patients underwent kidney transplant

Domains	Before Study	After study	Mean Difference	t	P value
General health	5.97±2.20	5.97±2.20	0.52±2.78	-1.138	0.263
Physical function	16.72±2.92	21.64±1.42	4.92±3.25	-9.064	<0.001*
Emotional Function	15.50±3.87	23.19±2.54	7.69±4.63	-9.976	<0.001*
Social Function	17.64±4.08	24.94±2.43	7.31±4.33	-10.128	<0.001*
Daily Activities	23.14±4.52	28.89±3.45	5.75±5.49	-6.285	<0.001*
Physical & Emotional Problems	28.39±2.57	32.52±3.75	4.14±5.05	-4.913	<0.001*
Total	107.36±10.14	137.69±5.90	30.33±11.85	-15.360	<0.001*

*Statistically significant

Table No.3: Comparison of pre and post difference in KDQOL Levels (Wilcoxon signed rank test)

KDQOL level	Before the Study	After the study	Difference	P value
Poor	18 (50%)	7(19.4%)	11(30.6%)	0.001*
Average	14(38.9%)	13(36.1%)	1 (2.8%)	
Excellent	4 (11.1%)	16(44.4%)	12 (33.3%)	

DISCUSSION

Self-management support intervention helps patients to improve the skill, confidence, encouragement and power to enhance their managing their chronic condition. Additionally, nurses play vital role in providing care to the patients therefore this study was conducted to find out the impact of nurse-led self-management support interventions on quality of life among kidney transplant patients. The results of current study reveals that Nurse led self-management program had significant impact on increasing the quality of life of kidney transplant patients. The mean age of patients was 31.44 ± 9.31 . The patient's characteristics showed that (55.6%) females, 27.8% can read/write and 52.8% belongs to urban area. 69.44% of donor were non-relatives. A study conducted by Rizvi et al¹⁴ reveal the demographic information of donor which shows that male donors were higher in number and 54% of donors were siblings, 3.5 % were close relatives, 8.4% were spousal.

In current study pre and post Nurse led intervention for self-management was applied. There was significant difference in the KDQOL before and after 4-month intervention. Over all their general health remain same after transplantation ($p > 0.05$) but their physical function, emotional function, social function, daily activities and physical and emotional problems showed significant difference after intervention ($p < 0.05$). 11.1% participants were having excellent quality of life and but after intervention it has increased to 44.4% ($p < 0.05$).

The result of a pilot study conducted by Been-Dahmen et al¹⁵ reveals that recipients who receive intervention admire the intervention, become more competent in solving their problems and social interactions. There was an improved quality of life among intervention group. It was concluded that Nurse-led-self management approach was successfully accepted by patients and professional as well.

Another study reported that self-management program had significant impact on patient's quality of life. There was significant improvement in patient activation, health related quality of life, health status and self-management skill as well.¹⁶

A study conducted among Korean adults to investigate Chronic Disease Self-Management Program which was followed for 18 weeks. The result of this study reveals higher levels of self-efficacy and physical activity at the end of study. The participants who have low health

related literacy have greater impact and benefit than those who have high literacy.¹⁷

Kafami et al¹⁸ conducted study on self-management program on multiple sclerosis patients shows that after two months of intervention there was significant difference in health status of two groups which is in accordance to current study.

A quai experimental study was conducted on 86 patients with cardiovascular diseases showed that the self-management intervention had significant effect on changing patient's lifestyle as well as medication regimen and choosing better diet plan¹⁹.

CONCLUSION

The nurse led self-management support intervention has potentially significant positive effect on the quality of life of kidney transplant patients. Nurses are the important factor for educating patients which can lead to significant change in their behavior and quality of life as well. It was also recommended that higher authorities should pay more attention to nurse led self-management support programs so that we can improve patient's health, independence and satisfaction.

Author's Contribution:

Concept & Design of Study:	Rashida Jabeen
Drafting:	Kousar Perveen, Muhammad Afzal
Data Analysis:	Muhammad Afzal, Sadia Khan
Revisiting Critically:	Rashida Jabeen, Kousar Perveen
Final Approval of version:	Rashida Jabeen

Conflict of Interest: The study has no conflict of interest to declare by any author.

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