

Exercise and Rehabilitation Needs for Kidney Transplantation

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Editorial

Renal transplantation offers better quality of life and confers greater longevity than long-term dialysis [1]. However, patients undergoing kidney transplant need rehabilitation help in recovery. Recovery of patients following kidney transplants depends largely on team work encompassing both the medical, surgical and rehabilitation team. To many of the health care providers, rehabilitation of this group of patient is not without challenges. Rehabilitation involved the use of all means aimed at reducing the impact of disabling and handicapping conditions and enabling people to achieve optimal social integration. The overall aims of rehabilitation is to enable people to lead the life that they would wish given any restriction imposed on their activities by impairments resulting from illness or injury.

Considerations for rehabilitation for this group of patients emanate partly from the restrictions imposed on their activities by impairments and complications occurring in patients with chronic kidney (CKD) disease and post-transplant patients. Impairments and complications such as uremic myopathy in the fifth stage of chronic kidney disease, reduced glucose utilization caused by aerobic glycolysis disorders, protein-energy malnutrition, impaired immune defense mechanisms, increased oxidative stress and neurohormonal disorders have been reported in patients with CKD and post-transplant renal patient [2].

Corticosteroids, used as part of immunosuppressive therapy after transplant, often result in numerous adverse effects, including weight gain, osteoporosis, and sarcopenia. Other impairments include easy fatigability, loss of appetite, swelling around the ankles and lower legs, difficulty in breathing and shortness of breath which could consequently lead to physical inactivity [2].

Physical activity is protective for many of the risk factors that lead to mortality in kidney post-transplant patients. The primary cause of mortality among kidney transplant recipients is cardiovascular disorders (CVD). Risk factors for CVD include hypertension, diabetes mellitus, hyperlipidemia, smoking, diet, obesity, and sedentary behaviors that can be ameliorated by regular exercise. However, the role of exercise after kidney transplantation appeared not to have been well emphasized.

There is no uniform agreement among transplant professionals about the need for or recommending exercises and on the required exercise prescription after kidney transplantation [3-5].

An important aspect is that increase physical activity improves quality of life of patients. Increase physical activity in kidney transplant population could have a number of beneficial health implications.

Regular physical exercise improves blood circulation and lowers blood pressure and heart rate at rest and during exercise. Exercise acts as a stimulant on the endothelium of blood vessels and stimulates the growth of muscle and bone mass, affects metabolic processes of oxidation of glucose and fatty acids, and lowers cholesterol. Physical exercise regulates the secretion of systemic hormones through adipose tissue, reduces oxidative stress and influences the secretion of cytokines [4,5].

Exercise training studies showed generally low rates of exercise post-transplantation; randomized trial of exercise training, 36% of kidney recipients in the usual-care group exercised compared with 67% of the exercise-intervention group at 1 year post transplantation [6]. Fears of injuring the transplanted graft and that the wound site will rupture with exercise were some of the patient related factors [7,8]. Patients of diverse ethnic and cultural backgrounds may place differential values on exercise and self-care [9] Health care professionals may not rigorously promote exercise to kidney transplant recipients as part of routine post-transplantation patient management for various including time constraints, lack of confidence in their ability to counsel patients, lack of conviction that patients will respond to counseling, and the belief that other medical issues are more important than exercise [10].

Personal Opinion

The promotion of physical activity to enhance Quality of Life (QoL) and reduce mortality rate among kidney transplant patients is very important. There is also an urgent need for the development of evidence-based guidelines on rehabilitation protocols to assist physiotherapists, rehabilitation and transplant professionals as a routine part of patient

management. Cooperation between transplant and rehabilitation professionals is necessary to effectively tailor exercise regimens to various groups within this patient population. Patients can be grouped according to risk profiles and undergo levels of rehabilitation as part of a coordinated multidisciplinary approach to patient management. A line of collaborative research that investigates the impact of exercise and different rehabilitation protocols on health outcomes among kidney transplant recipients is also needed.

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