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Research Article

**NURSING MANAGEMENT FOR KIDNEY TRANSPLANT
PATIENTS; REVIEW**

¹Zahra Abdu Hadi Alqarni, ²Amna Ali Almashi, ³Seham Ali Almashi, ⁴Arwa Hashim Alsharif, ⁵Salwa zakria alhawsah, ⁶Asma Hassan AlShehri, ⁷Reem Mohammed Menkapo, ⁸Rommana Bakur Ebraheem, ⁹Safia Saleh Gazwani, ¹⁰Aidah Abdullah Saeed Alkatheri

Article Received: September 2022 **Accepted:** October 2022 **Published:** November 2022**Abstract:**

The aim of this paper which was conducted through digital databases; PubMed and Embase for all studies that were published concerning our topics up to the end of 2021, was to identify the roles of nurses in management of patient post-kidney transplant. Kidney transplant is a surgical procedure that involves the transfer of a healthy kidney into the body of a patient with end-stage renal disease in order to compensate for the loss of a kidney or to replace a diseased organ with a functional one. As a result, kidney allograft recipients require nursing care, with special attention paid to the effects of the surgical procedure and those associated with the use of immunosuppressive agents. Nurses tasked with these patients' care should be knowledgeable enough to enable the development of correct nursing diagnoses (NDs) and, as a result, suitable care plans.

Corresponding author:**Zahra Abdu Hadi Alqarni,**

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INTRODUCTION:

Significant progress has been made in the graft survival of renal transplant recipients in recent decades [1]. This is largely due to improved immunosuppression, co-morbidity treatment, and patient education. The renal nurse is essential in the care, management, and support of persons receiving transplants as they adjust to life without dialysis, dietary restrictions, or hydration limitations. Patients go from the early post-operative time to the maintenance phase, and the renal nurse plays an important role in communicating with, educating, and encouraging this group of patients to maximum independence in their own care. Renal nurses must be knowledgeable with the medications that patients may be needed to take, how transplantation may influence lifestyle and the potential psychosocial impact, as well as the chance of new or recurring disease [2].

Holistic nursing care allows for the greatest and most thorough treatment for kidney transplant recipients. Holistic care is given by implementing a nursing process based on scientific problem-solving [3,4]. In posttransplant care, the nursing process enables the systematic progression of care and the evaluation of care outcomes, and hence the continuity of care [5].

As a result, kidney allograft patients require nursing care, with special attention paid to the consequences of the surgical process and those associated with the use of immunosuppressive medications. Nurses tasked with these patients' care should be knowledgeable enough to assist the creation of accurate nursing diagnoses (NDs) and then construct appropriate care plans on a case-by-case basis. Despite the importance of this topic, few studies have looked into the role of nursing care for kidney transplant recipients, who may face complications that jeopardize graft and even patient survival [6].

DISCUSSION:

For patients undergoing renal transplantation it is a time of great uncertainty. While it is acknowledged that there is a large number of healthcare professionals caring for patients who are waiting for a transplant, it is the renal nurse who is at the centre of their care delivery [7]. The renal nurse needs to assist the patient and their relatives to deal effectively with this situation and also to manage the patient's pre- and postoperative care to maximize the success of the graft. A good start for the transplant is a predictor of a good long-term outcome [8]. The importance of patient wellbeing while waiting for transplantation was highlighted in the first of this series of articles [9]. Psychological and social support is vital for patients, their

spouses/partners and family members especially as patients endure their dialysis treatment and wait for that call for renal transplantation. This support process must be continued throughout the pre-transplantation phase right through to discharge and beyond so that they can effectively manage this life-changing event [9].

RISK OF DIABETES MELLITUS:

The incidence of new onset diabetes following transplant (NODAT) is reported to be between 4–53%. NODAT should be managed appropriately according to guidelines (Wilkinson *et al.* 2005) and in conjunction with local diabetes specialists [10]. Up to 73% of new onset diabetes mellitus after transplantation (NODAT) has been attributed to immunosuppressants such as prednisolone, tacrolimus, ciclosporin and, to a lesser extent, sirolimus [11]. In order to minimize or prevent side effects of medication, treat or prevent co-morbidities patients are often prescribed medication in addition to their immunosuppressive drugs. This may include antibiotics and/or antivirals to prevent opportunistic infections, statins to correct dyslipidaemia and reduce cardiovascular risk, aspirin to reduce cardiovascular risk and antihypertensives to control hypertension and reduce cardiovascular risk [12].

URINE LEAK AS COMPLICATION:

This can occur in around 4% of patients. Urine leaks into the abdominal cavity due to ureteric obstruction or necrosis. The patient may complain of abdominal discomfort and have reduced urine output. Ultrasound investigation of the abdomen can confirm a urinary leak. Treatment is usually insertion of an indwelling urinary catheter which remains *in situ* until the leak is healed. Occasionally surgical intervention will be necessary [12].

LYMPHOCOELE, INFECTION AND REJECTION:

Following transplant surgery, a collection of lymph fluid can form, which occurs in roughly 18% of patients [13]. A lymphocele can exist without causing problems, but if it becomes large enough, it might compress the iliac vein, causing leg edema, or compress the donor ureter, causing graft malfunction. Ultrasound can detect the presence of a lymphocele. Immunosuppression puts transplant recipients at an increased risk of infection from bacterial, viral, and fungal causes. Postoperative chest infection prevention can be achieved by encouraging deep breathing, encouraging early mobility, and physiotherapy. Close attention should be paid to the surgical wound to prevent and/or detect infection.

Monitoring of vital signs, particularly temperature is important in order to detect signs of infection [13]. Rejection rates in kidney transplant recipients have been reported to range between 15% and 30%, depending on the immunosuppressive regimen used, and can be either cellular or vascular in character. If the serum creatinine level rises, rejection is suspected (or fails to fall). At a later stage, symptoms such as pyrexia, graft discomfort, and decreased urine production appear. If there is no evident cause for the creatinine rise, a biopsy of transplant tissue is obtained under local anaesthesia and evaluated in the laboratory to confirm the diagnosis of rejection. Treatment is determined by the type and degree of the rejection. Borderline or mild rejection (cellular) can be addressed with further oral immunosuppression or intravenous high-dose Prednisolone. More severe rejection (cellular or vascular) can be treated as previously mentioned or with further ATG injection [14]. In patients who have undergone surgical procedures, the ND risk for infection, described in NANDA-I as a higher risk of being invaded by pathogenic organisms, is routinely established. This ND was found in 99% of the patients in our study, and it was mostly associated with invasive procedures (indwelling and intermittent urinary catheterization, central venous catheterization, drain placement, and tissue destruction by surgical intervention) and inadequate primary defenses due to immunosuppression, as described in a previous study conducted at another Brazilian teaching hospital [15,16]. Invasive operations done in a hospital setting pose a significant risk of introducing microorganisms into the body, making infection risk directly proportional to the number of invasive procedures to which patients are subjected [16,17]. This is commonly reported in the literature, and it supports the fact that infection risk is the most common ND among surgical patients [17]. Immunosuppression, in addition to invasive procedures, is a key risk factor for the ND risk of infection in kidney transplant recipients [18]. Immunosuppressive medications are administered to transplant recipients in order to decrease graft rejection, which is one of the most significant hurdles to successful transplant. However, the use of immunosuppressive medicine is closely associated to the prevalence and severity of infections, especially in the early posttransplant period [19].

Ineffective protection is described as a reduction in one's ability to defend oneself from internal or external risks such as illness or harm. This ND was used by 93% of the patients in our study, and the main relevant factor was pharmaceutical drugs (corticosteroid, immunological). Immunosuppression is also a major

contributor to infectious diseases in kidney transplant recipients. In a study of hemodialysis patients, this ND was found in 53.3% of instances and had medication as one of its etiological variables [16]. A prior study of postoperative liver transplant recipients reported poor protection diagnosis in 96% of patients, with deficient immune activity (as a result of immunosuppression) as the key associated cause [20]. The ND bathing self-care deficiency is defined as the inability to implement or complete bathing/hygiene activities independently [17]. Pain and restrictive interventions were the most common associated characteristics, implying a requirement for nursing care focused on hygiene-related, self-care activities. Previous research on kidney transplant recipients found this ND in 100% of patients, with etiological factors including environmental barriers, weakness, weariness, and discomfort [20]. Damage to the mucous membrane, ocular, integumentary, or subcutaneous tissues is described as ND compromised tissue integrity. This ND is typically found in patients who have undergone invasive operations that involved mechanical trauma and tissue injury. It was found in 69% of the patients in our study, despite the fact that all had undergone major surgery and so experienced mechanical stress and injury to the skin and subcutaneous tissues. These findings support those of a previous study, which found that impaired tissue integrity was the most common ND among surgical patients, with mechanical trauma (surgical intervention) as a contributing factor and invasion of body structures (skin and subcutaneous tissue) as a distinguishing feature [21]. This ND was also documented in 100% of cases, since all patients suffered incisional rupture of skin integrity. Despite clinical evidence to the contrary, nurses in some circumstances fail to establish this ND. This phenomenon could be linked to varied interpretations of the same clinical setting, in which different nurses may have differing perspectives about the patient's priority care needs. As a result, nursing care interventions for poor tissue integrity, such as infection risk, may be recommended under the supervision of another ND. This is because certain NDs have very similar risk factors, which may lead nurses to choose one diagnosis over another. The most accurate ND should always take precedence; yet, nurses are occasionally presented with situations in which they are unsure whether diagnosis should take precedence. 57% of the patients in the sample had ND acute pain. This ND is defined as a "unpleasant sensory and emotional experience deriving from actual or potential tissue injury or described in terms of such damage; of abrupt or delayed onset of severity ranging from mild to severe with an expected or foreseeable end and lasting shorter than 6 months"

[17,21]. The trauma induced by the surgical technique itself, which results in tissue injury and the activation of pain pathways, was the major factor related with this ND. A study of kidney transplant recipients in Northeast Brazil found a similar result. The ND acute pain was evident in all participants in a recent study of patients having heart surgery because to the lack of epithelial barrier integrity caused by the tissue disruption inherent in surgical intervention [17].

PATIENT CARE ON DISCHARGE:

Patients who return to primary care following a kidney transplant may face a number of problems. They will require intensive assistance from the transplant clinic and the primary care environment once they are discharged. Education remains the foundation of these individuals' care. They must be taught how to care for their transplant and be self-sufficient. It is critical to assess patients' ability to learn and comprehend new information and abilities. Individual education sessions must be conducted in an informal, non-threatening manner. Physical constraints, such as visual or hearing impairments, as well as language and literacy barriers, may occur when examining these patients. These can be managed in a variety of methods, including the use of electronic blood pressure screening devices, diagrams, translation services, and, if necessary, incorporating family members in instructional sessions [2,9,21].

CONCLUSION:

Nursing interventions for kidney transplant recipients appear to be restricted. Nurse care plans for kidney transplant recipients should contain more detailed nursing diagnoses and interventions to ensure physical, psychological, and social well-being. It is advised that basic nursing education and postgraduate training programs for kidney transplant recipients focus more on holistic care and the utilization of the nursing care process. Infection risk, impaired urine elimination, insufficient protection, lack of bathing self-care, impaired tissue integrity, and acute discomfort. These NDs are directly related to the real and potential health issues associated with the convalescent period in this patient population, such as an increased risk of infection, whether due to invasive procedures or immunosuppressive therapy; impaired urinary elimination, necessitating urinary catheterization; and difficulty in self-care activities, frequently due to pain or mandated postoperative rest. Each of these scenarios necessitates specific nursing care interventions that must be carefully and properly planned and implemented by the nursing team in order to ensure optimal patient safety conditions, assist in

lowering the rate of posttransplant complications and treatment costs, and, perhaps most importantly, improve patients' satisfaction and facilitate their return to full health.

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