

# INTEGRATIVE REVIEW ON THE ROLE OF NURSES IN POST-KIDNEY TRANSPLANT

Antonia Ecivânia Souza da Silva<sup>1</sup>, Ualison Oliveira Pontes<sup>1</sup>, Tércio Genzini<sup>2</sup>, Patrícia Rezende do Prado<sup>3</sup>,  
Thatiana Lameira Maciel Amaral<sup>4</sup>

<sup>1</sup>RN. Federal University of Acre. Rio Branco-AC-Brazil.

<sup>2</sup>MD. M.Sc. in Medicine. São Paulo-SP-Brazil.

<sup>3</sup>RN. M.Sc. in Public Health. Federal University of Acre. Rio Branco-AC- Brazil.

<sup>4</sup>RN. M.Sc. in Public Health and Parasitology. Federal University of Acre. Rio Branco-AC-Brazil.

**ABSTRACT:** The objective was to identify the role of nurses in post-renal transplant, showing the main care for these patients. For this, an integrative review was conducted in September 2013, with four databases as sources, using the key words: Renal Transplant, Nursing care (processes, interventions) and Post Transplant. 110 articles were identified, of which 13 met the inclusion criteria and were divided into three categories: Coordination of Nursing; Nursing Assistance; and Health Education. The literature points to the scope and importance of nursing coordination, care in the short and long-term, teaching and research. Nursing Care Systematization proved to be very useful to support nursing interventions and improve clinical outcomes. Thus, further studies on the subject are needed, especially on the educational aspect of nursing performance.

**KEYWORDS:** Kidney transplant; Nursing care; Nursing process.

## REVISÃO INTEGRATIVA SOBRE O PAPEL DO ENFERMEIRO NO PÓS-TRANSPLANTE RENAL

**RESUMO:** O objetivo foi identificar o papel do enfermeiro no pós-transplante renal, evidenciando os principais cuidados a essa clientela. Para tanto, foi realizada revisão integrativa em setembro de 2013, tendo como fonte quatro bases de dados, usando os descritores: Transplante Renal, Assistência de enfermagem (processos, intervenções) e Pós-Transplante. Foram identificados 110 artigos dos quais 13 cumpriram os critérios de inclusão e foram separados em três categorias: Coordenação de Enfermagem; Assistência de Enfermagem; e Educação em Saúde. A literatura aponta a abrangência e importância da atuação da enfermagem na coordenação, assistência a curto e longo prazo, ensino e pesquisa. A Sistematização da Assistência de Enfermagem mostrou ser de grande utilidade para subsidiar as intervenções de enfermagem e melhorar as respostas clínicas. Assim, são necessários mais estudos sobre a temática, principalmente sobre o aspecto educacional da atuação de enfermagem.

**DESCRIPTORES:** Transplante de rim; Cuidados de enfermagem; Processos de enfermagem.

## REVISIÓN INTEGRATIVA SOBRE EL PAPEL DEL ENFERMERO EN EL POSTRASPLANTE RENAL

**RESUMEN:** El objetivo fue identificar el papel del enfermero en el postrasplante renal, evidenciando los principales cuidados a esa clientela. Para tanto, fue realizada revisión integrativa en septiembre de 2013, teniendo como fuente los acervos de cuatro bases de datos, usando los descriptores: Trasplante Renal, Asistencia de enfermería (procesos, intervenciones) y Postrasplante. Fueron identificados 110 artículos de los cuales 13 cumplieron los criterios de inclusión y fueron clasificados en tres categorías: Coordinación de Enfermería; Asistencia de Enfermería; y Educación en Salud. La literatura apunta la abrangencia e importancia de la actuación de la enfermería en la coordinación, asistencia en corto y largo plazo, enseñanza e investigación. La Sistematización de la Asistencia de Enfermería mostró ser de gran utilidad para subsidiar las intervenciones de enfermería y mejorar las respuestas clínicas. Así, son necesarios más estudios sobre la temática, principalmente acerca del aspecto educacional de la actuación de enfermería.

**DESCRIPTORES:** Trasplante de riñón; Cuidados de enfermería; Procesos de Enfermería.

---

\* Article originated from the end-of-course paper for the undergraduated Course in Nursing. Federal University of Acre, 2013

### Corresponding author:

Thatiana Lameira Maciel Amaral  
Universidade Federal do Acre  
BR 364, Km 04 - 69920-900 - Rio Branco-AC-Brasil  
E-mail: thatianalameira27@gmail.com

Received: 21/11/2013

Finished: 30/04/2014

## INTRODUCTION

Chronic Kidney Failure results from the inability of the kidneys to maintain the internal balance of the body; continuous treatment is needed to replace the impaired function. Renal transplant appears as the treatment of choice for most patients with this disease, to compensate or replace the performance of the organ without the need for dialysis therapies <sup>(1)</sup>. According to the Brazilian Association of Organ Transplantation (BAOT), in the first half of 2013, 3,799 solid organ transplants were performed, 2,707 of these were kidney grafts, corresponding to 71.2% of total transplants <sup>(2)</sup>.

The steady progression of transplant results provides the patient with the recovery of quality of life, reintegration of living in society and the release from dialysis, because it is a durable therapeutic resource that enhances survival and presents great cost-effectiveness compared with other treatments<sup>(3)</sup>, including advances in kidney transplant in children. A treatment that, until recently, was considered high risk, since renal allograft survival was not as good as that reported in adult patients, is currently considered the therapy of choice for children with chronic kidney disease, since it improves neurological and psychological development and quality of life, far beyond that provided by dialysis therapies <sup>(4)</sup>. In Brazil, in adults, the transplants are usually in males, with a prevalence of 62.1% in Fortaleza and 52% in São Paulo, averaging between 40 and 51 years, low education, 72% of patients underwent dialysis before transplantation, for an average of 51.6 months, and the average waiting time was 6.5 years<sup>(3,5)</sup>.

The significant increase in transplants stems from continued advances in this area, improvement of immunosuppressive therapies, with the introduction of new drugs, the improvement of the techniques, education and access to information about the transplant recipient <sup>(1)</sup> techniques. However, despite all of the advantages, this requires the transplanted to adopt distinctive lifestyles with respect to diet, hygiene, medicine and health care, making them complex patients who require specialized and ongoing training from the team of health professionals involved in their care <sup>(5)</sup>.

The nurse, as compared to other professionals, is in direct contact with the patient, for this reason; there are various ways in which they can contribute to the health of the patient and to the success of the transplant<sup>(6)</sup>. Therefore, it is important to expand knowledge so as to act from the first stage of the process that corresponds to the diagnosis of brain death of the donor, care and maintenance of the feasibility of their organs, and the correct family approach, and also provide high-level assistance to both candidates and transplant recipients, as well as their families or caregivers, to permit the continuity of care outside the hospital<sup>(7)</sup>. Another major role is nursing management, essential for the realization of policies for the construction of health care quality, as well as for the organization of networks of knowledge and practice in its different dimensions. <sup>(8)</sup> The development of communication therapy as an educational strategy, between the nursing staff and patients, has been mentioned as a way of providing comprehensive and higher quality transplant<sup>(9)</sup> care.

In the context of renal transplantation, the nursing staff has to continually examine their practice and seek ways to improve the care provided<sup>(7)</sup>. The objective of this study is to develop an integrative review of the literature to identify the role of the nurse before and after renal transplantation.

## METHOD

This is an integrative review that allows the researcher to know about a matter, through an overview of the scientific literature, a fact that allows one to know its evolution and thus view the development of future research<sup>(10)</sup>. Integrative review is a comprehensive method that provides a multitude of information about health care, essential for nurses to deliver quality patient care<sup>(11)</sup>.

In this study, the following phases of the method<sup>(12)</sup> were considered:

- 1) Identification and selection of the research theme in question: this step included the definition of the keywords used to search for articles, which were: Renal Transplantation, Nursing care (processes, interventions) and Post Transplant, besides the formulation of the guiding research question: What is the role of nurses in kidney post-transplant?

2) Establishment of criteria for inclusion and exclusion of studies / sampling or literature search: this phase aimed to define the search strategy, the establishment of criteria for inclusion and exclusion of articles and, most importantly, a careful analysis of the selected studies. The electronic databases that were searched were: Latin American and Caribbean Literature in Health Sciences (LILACS), Scientific Electronic Library Online (SciELO), SciVerse Scopus, PubMed. Inclusion criteria were: complete original articles (text and abstract), different methods, published in national and international journals between 1990 and 2013 and which presented results of research undertaken in the proposed theme, written in English, Spanish and Portuguese. In total, 110 publications were selected in September 2013. Review articles were excluded.

3) Definition of information to be extracted from selected articles / categorization of studies: information obtained included identification of the article (title, journal, year of publication, year of conducting the search and keywords); identification(s) of author(s); and characteristics of the scientific article (sample, objectives, methods, results and conclusion). To refine the sample, an independent reading of 110 selected abstracts was performed by observing the previously mentioned criteria.

4) Evaluation of the studies included in the integrative review: the selection was done in two phases: a) assessment of the titles and abstracts of all selected studies independently by two reviewers; b) after the selection of abstracts, by consensus among the evaluators, the full text was evaluated. A critical analysis of articles consisted in two researchers reading the full study independently.

5) Interpretation of results: through descriptive analysis after full reading of selected scientific articles, building analytical categories.

6) Presentation of review / synthesis of knowledge: the information obtained based on the protocol of the research was summarized and described analytically.

## RESULTS

From a selection of 110 items, 38 studies were repeated. Besides, 55 articles were excluded, based on criteria established in the methodology. Thus, 17 articles were selected. However, due to lack of access

to four, the final sample consisted of 13 articles.

Four articles were based on Brazilian data (Rio de Janeiro, São Paulo and two in Fortaleza) and the rest was international (Spain, Canada, Cuba, Mexico, Iran, England, United States, Korea and Ukraine). As for the language, four articles were written in Portuguese, three in Spanish and six in English.

Regarding the design of the studies, four were cross-sectional, three were descriptive, two semi-experimental and four related to continuing education. The selected articles were reviewed, synthesized and didactically organized into three categories: Coordination of Nursing; Nursing Care; and Health Education.

## DISCUSSION

### Coordination of Nursing

Within the multidisciplinary team involved in the transplant process, the nurse coordinator is highlighted for possessing the knowledge, clinical experience and service management skill that help organize, collaborate and develop specific activities, acting as a facilitator of the process, and providing a link between staff and patients<sup>(13)</sup>. For this reason, they have also been considered essential to the success of renal transplant in children. This therapeutic modality has become even more complex since, as an aggravating factor, the child population needs life-long immune-suppression, leading to delayed growth and development of the organism and increased risk of heart disease and cancer<sup>(14)</sup>.

In post-transplant, the focus of the nurse coordinator is to ensure people and resources to offer qualified care and organization and educational activities to patients and families. Thus, they should be familiar with the organizational structure of the transplantation process, and with the policies and procedures of their institution, so they can organize the time, attention and clinical aspects of care after the operation<sup>(13)</sup>.

### Nursing care

The first 24 hours after transplantation represent a critical period, marked by hemodynamic and respiratory instability, and there is a great risk

of developing complications, mainly of graft rejection<sup>(15)</sup>. The nurse treating the patient in the early post-transplant period needs specialized knowledge to reduce the problems, prevent or anticipate and intervene immediately to maximize the result of long-term graft and provide quality care throughout the hospitalization period. Systematization of Nursing Care (SNC) is within this context a key instrument to achieve the therapeutic goals of the patient and establish the necessary care<sup>(16)</sup>.

The behavior of diuresis is probably the most important element in the monitoring of renal functions, since it causes therapeutic behaviors such as hydration, medication and even surgery for urologic complications, involving urethrovesical anastomosis (fistula, stenosis and reflux)<sup>(17)</sup>. The urinary catheter placement provides accurate measurement of urine output and determines the presence of hemorrhage and blood clot, acute graft rejection, and vascular thrombosis, and is a predictor of the development of transplantation. The urinary catheter is removed after proper healing of the anastomosis of the ureter into the bladder, when continued monitoring of urine volume<sup>(18)</sup> is required.

In addition to these specific issues during the hospitalization of the patient, daily blood tests must be done, with the most relevant results including levels of serum creatinine, polymerase chain reaction (PCR), white cell count, and levels of immunosuppressive drugs. These parameters determine that the kidney function is effective and show the first signs of a possible rejection or infection, and whether the drug levels are within the therapeutic range required for the maintenance of immunosuppression or induction, maintenance and treatment of rejection<sup>(18)</sup>. Therefore, the nurse must be familiar with and have the knowledge to readily identify the results of change and institute appropriate therapeutic measures in each situation.

According to a cross-sectional study conducted in Spain, there are differences in the nursing care of transplant patients between transplants received from a live kidney donor and from cases of brain death and asystole with respect to immediate graft function. In the latter, there is greater need for monitoring and nursing care, since patients have a higher incidence of graft<sup>(19)</sup> failure.

It is noteworthy that, to ensure continued and qualified care for the transplanted, the nursing records are a tool of great value, since they ensure communication with other members of the healthcare team, provide data to assess the overall condition of the customer, to implement a comprehensive and holistic care, provide information for construction of care quality indicators and support research and teaching actions, besides legally supporting the professional, institution and the patient<sup>(20)</sup>.

A descriptive and observational study at a Renal Transplant Unit in Rio de Janeiro showed that the nursing records were present within 24 hours of admission, however, addressed only the biological dimension, while the actions of caring that are rich in subjectivity were not recorded, even when offered. This demonstrated that the nursing staff still does not attribute due importance to subjective care<sup>(21)</sup>.

Transplant patients live with an unstable clinical condition and risk, and tend to have a profile of anxiety and distress, which can lead to depression<sup>(18)</sup>. Discussing their fears, doubts, problems, sharing decisions about treatment, and making them participate in the management of their illness are simple actions that can minimize the stress, and assist the patient to overcome difficulties. For best results, you can also include the help of a nutritionist, a pharmacist and a social worker, as demonstrated in a study, in multifaceted multidisciplinary care actions<sup>(22)</sup>.

It is also required that patients leave the hospital aware of the care that they should have at home, the risk of graft loss, complications that surround them and the importance of performing outpatient monitoring across the lifetime. It is essential that nurses act by promoting the continuity of care and health education with patients and families<sup>(23)</sup>. The use of nursing diagnoses is also extremely important at this stage, since it allows the organization of nursing work, the credibility of the services offered and the achievement of the patients' objectives<sup>(5)</sup>.

A cross-sectional study in Iran used the scale of pain in post-transplant patients and found that the severity of the pain seems to increase the amount of health care used among kidney transplant patients. This demonstrates the impact that the incidence of pain can cause in the recovery and quality of life, and the importance of the team to develop activities for the prevention and

treatment through pain rehabilitation programs<sup>(24)</sup>. The alternatives to improve the quality of life of post-transplant patients include the nursing intervention conducted through the Breathing Exercises Program Danjeon<sup>(25)</sup>.

This program was taken from Roy's Adaptation Model and involves calmness, concentration and breathing, based on the conception of the individual to stay calm when breathing. When the mind is awake, the mind focuses on the lower part of the hypogastric region, when you can gradually move the body into an active state, taking care to keep breathing, and causing the mind to assume a static mode. This type of exercise technique enables the entire body to be filled with energy and can reduce the stress, as well as the uncertainty of a kidney transplant<sup>(25)</sup> in patients.

## Health education

Another aspect directly linked to the success of transplantation is correct patient education so that, after leaving the hospital, they may be sufficiently educated to prevent, recognize and minimize the risk of complications and rejection, and have a better quality of life. Thus, it is necessary that the professional has the ability of evaluation, knowledge of immunology, dietetics, pharmacology, infectious diseases and their prevention, and of the psychological implications these clients face, and the ability to transfer this knowledge to patients in an understandable form<sup>(13)</sup>.

The renal transplant patients face many challenges after discharge. Despite evidence of improved quality of life, and free from the hemodialysis machine, they constantly live with the risk of rejection and adopt a new lifestyle in relation to food, medicine and healthcare<sup>(5)</sup>.

The educational process is of utmost importance for the positive progression of renal transplants in children, and should include the participation of other professionals, especially teachers, in order to facilitate a more holistic and deep insight, understanding the complex issues and processes involved in educational support for transplanted children<sup>(26)</sup>.

To ensure the success of transplantation in the long-term, it is important that the nursing staff works to educate these patients, ensuring that they

return to their homes with enough knowledge to keep the graft and appropriate self-help skills and knowledge. This includes the proper use of medications and its side effects, addressing questions about adherence to the therapeutic regimen, since not following the therapy increases the risk of graft loss; understanding of the care for the prevention and identification of signs and symptoms of infection and rejection, measuring vital signs, and daily weight and glucose test, the importance of a balanced and healthy diet associated with exercise to prevent weight gain, skin care, since the immunosuppressive regimen increases the risk of development of malignancies, as well as issues of fertility and Lifestyle<sup>(18)</sup>.

The care of individuals with chronic kidney disease should be performed in a manner consistent, responsible, humane and directed to their uniqueness<sup>(27)</sup>. Thus, the nursing actions in post-transplant should include coordination, care, teaching and research, and are important to know the different links in the network of health actions necessary for the best care to transplant patients.

## CONCLUSION

The nurse is challenged daily to offer good care, coordination of people and resources, educational support, and emotional support to transplant patients and their families throughout the logistics process. Therefore, it is necessary to develop skills for the quality of care to go beyond the technical aspects. To manage all the complex demands involving the care of the transplant patient with good quality, it is essential for the nurse coordinator to develop a comprehensive knowledge base and, therefore, to be constantly involved with the process of teaching and learning. Nurses should have, in principle, capacity to assess and make decisions, and also work in a multi-professional manner.

All these features make the nurse essential to ensure the success of a kidney transplant program in all its phases, and demonstrate that this area offers a wide field of activity. It is possible to develop a career in the coordination, care, education and research. It is hoped that this study will contribute to better elucidate the skills of nurses in post-renal transplant and provide support for the improvement of health practices.

## REFERENCES

1. Flores RV, Thomé EGR. Percepções do paciente em lista de espera para o transplante renal. *Rev. bras. enferm.* 2004;57(6):687-90.
2. Associação Brasileira de Transplante de Órgãos (ABTO). São Paulo: Associação Brasileira de Transplante de Órgãos. Dados estatísticos sobre transplante renal [Internet] [2 telas] [acesso em 03 out 2013]. Disponível: <http://www.abto.org.br>
3. Machado EL, Gomes IC, Acurcio FA, César CC, Almeida MCM, Cherchiglia ML. Fatores associados ao tempo de espera e ao acesso ao transplante renal em Belo Horizonte, Minas Gerais, Brasil. *Cad. Saúde Pública.* 2012;28(12):2315-26.
4. Patel UD. Outcomes after pediatric kidney transplantation improving: how can we do even better? *Pediatrics.* 2014;133(4):734-35.
5. Lira ALB, Lopes MVO. Pacientes transplantados renais: análise de associação dos diagnósticos de enfermagem. *Rev. Gaúcha Enferm.* 2010;31(1):108-14.
6. Ribas AC. O enfermeiro no processo de transplante renal [Internet]. Curitiba (PR): Pontifícia Universidade Católica do Paraná; 2007 [acesso em 03 out 2013]. Disponível: <http://www.pucpr.br/eventos/educere/educere2007/anaisEvento/arquivos/PO-151-12.pdf>
7. Mendes KDS, Roza BA, Barbosa SFF, Schirmer J, Galvão CM. Transplante de órgãos e tecidos: responsabilidades do enfermeiro. *Texto Contexto Enferm.* 2012;21(4):945-53.
8. Prochnow AG, Leite JL, Erdmann AL, Trevizan MA. O conflito como realidade e desafio cultural no exercício da gerência do enfermeiro. *Rev Esc Enferm USP.* 2007;41(4):542-50.
9. Fermino TZ, Carvalho EC. A comunicação terapêutica com pacientes em transplante de medula óssea: perfil do comportamento verbal e efeito de estratégia educativa. *Cogitare enferm.* 2007;12(3):287-95.
10. Botelho LLR, Cunha CCA, Macedo M. O método da revisão integrativa nos estudos organizacionais. *Gestão Soc.* 2011;5(11):121-36.
11. Whittemore R. Combining evidence in nursing research: methods and implications. *Nurs Res.* 2005;54(1):56-62.
12. Mendes KDS, Silveira RCCP, Galvão CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. *Texto Contexto Enferm.* 2008;17(4):758-64.
13. Aguilar MC, Suárez VMG, Pinson GAG. Participación de enfermería en la coordinación de trasplantes de órganos. *Arch. Cardiol. México.* 2002;72(Suppl1):241-6.
14. Brennan J, McEnhill M. Use of nurse practitioners in pediatric kidney transplant: a model for providing comprehensive care to children and families. *Prog Transplant.* 2011;21(4):306-11.
15. Manfro RC. Manejo da doença crônica do enxerto renal. *J Bras Nefrol.* 2011;33(4):485-92.
16. Luparelli CRMS. Enfermeiros no processo de manutenção de potenciais doadores de órgãos para transplante [dissertação]. Rio de Janeiro (RJ): Universidade Federal do Estado do Rio de Janeiro; 2009.
17. Maciel AT, Park M, Macedo E. Monitorização de eletrólitos urinários em pacientes críticos: estudo preliminar observacional. *Rev. bras. ter. intensiva.* 2012;24(3):236-45.
18. Trevit R, Dunsmore V, Murphy F, Piso L, Perriss C, Englebright B, et al. Pre- and post-transplant care: nursing management of the renal transplant recipient: part 2. *J. Renal Care.* 2012;38(2):107-14.
19. Viana MCG, Sánchez SM, Marcos RR, Andrea TL, Cano NR. Receptores de trasplante renal de donantes en asistolia y muerte cerebral: diferencias en los cuidados enfermeros. *Enferm. nefrol.* 2012;15(1):40-5.
20. Françolin L, Brito MFP, Gabriel CS, Monteiro TM, Bernardes A. A qualidade dos registros de enfermagem em prontuários de pacientes hospitalizados. *Rev. enferm. UERJ.* 2012;20(1):79-83.
21. Roque KE, Melo ECP, Tonini T. Pós-operatório de transplante renal: avaliando o cuidado e o registro do cuidado de enfermagem. *Esc. Anna Nery.* 2007;11(3):409-16.
22. Bissonnette J, Woodend K, Davies B, Stacey D, Knoll GA. Evaluation of a collaborative chronic care approach to improve outcomes in kidney transplant recipients. *Clin. transplant.* 2013;27(2):232-8.
23. Albuquerque JG, Lira ALBC, Lopes MVO. Fatores preditivos de diagnósticos de enfermagem em pacientes submetidos ao transplante renal. *Rev. bras. enferm.* 2010;63(1): 98-103.
24. Hollisaaz MT, Noorbala MH, Irani N, Assari S, Saadat SH, Araghizadeh H, et al. Severity of chronic pain affects health care utilization after kidney transplantation. *Transplant Proc.* 2007;39(4):1122-5.
25. You HS, Chung SY, So HS, Choi SJ. Effect of a DanJeon breathing exercise program on the quality of life in patients with kidney transplants. *Transplant Proc.* 2008;40(7):2324-6.
26. Poursanidou K, Garner P, Watson A. Hospital-school liaison: perspectives of health and education professionals supporting children with renal transplants. *J Child Health Care.* 2008;12(4):253-67.
27. Pereira LP, Guedes MVC. Hemodiálise: a percepção do portador renal crônico. *Cogitare enferm.* 2009;14(4):689-95.