



# Journal of Nursing

Revista de Enfermagem

UFPE On Line

ISSN: 1981-8963

## INTEGRATIVE REVIEW ARTICLE

### THE ROLE OF NURSING PROFESSIONALS IN THE PATIENT CARE UNDER HEMODIALYSIS: AN INTEGRATIVE REVIEW

#### O PAPEL DOS PROFISSIONAIS DE ENFERMAGEM NO CUIDADO AO PACIENTE EM TRATAMENTO HEMODIALÍTICO: REVISÃO INTEGRATIVA EL PAPEL DE LOS PROFESIONALES DE ENFERMERÍA EN EL CUIDADO DEL PACIENTE EN HEMODIÁLISIS: UNA REVISIÓN INTEGRADORA

Lais Cristina Noleto<sup>1</sup>, Amanda Correia da Fonsêca<sup>2</sup>, Maria Helena Barros Araújo Luz<sup>3</sup>, Odinéa Maria Amorim Batista<sup>4</sup>, Antônio Francisco Machado Pereira<sup>5</sup>

#### ABSTRACT

**Objective:** identifying the role of nursing professionals in patient care under hemodialysis. **Method:** an integrative review guided by the question << *What is the available scientific knowledge about the role of nurses in patient care under hemodialysis?* >> in the databases LILACS and BDNF and SciELO virtual library, with selection of 15 publications. **Results:** regarding the characterization of publications, 2011 and 2013 were the years when there was a higher number of published articles. The most themes addressed were: health education, nursing procedures and quality of life of patients under hemodialysis, showing the variation of activities performed by nursing professionals in the treatment and rehabilitation of the patient. **Conclusion:** the nursing professional develops a number of roles during treatment of the patient in order to promote the success of the therapy and the client adjusts to the new lifestyle. **Descriptors:** Kidney Failure; Hemodialysis; Nursing Care.

#### RESUMO

**Objetivo:** identificar o papel dos profissionais de enfermagem no cuidado ao paciente em tratamento hemodialítico. **Método:** revisão integrativa norteada pela questão << *Qual o conhecimento científico disponível sobre o papel dos profissionais de enfermagem no cuidado ao paciente em tratamento hemodialítico?* >> nas bases de dados LILACS e BDNF e biblioteca virtual SciELO, com seleção de 15 publicações. **Resultados:** quanto à caracterização das publicações, 2011 e 2013 foram os anos em que houve maior número de artigos publicados. As temáticas mais abordadas foram: educação em saúde, procedimentos de enfermagem e qualidade de vida do paciente em tratamento hemodialítico, mostrando a diversificação das atividades desempenhadas pelos profissionais de enfermagem no tratamento e reabilitação do paciente. **Conclusão:** o profissional de enfermagem desenvolve uma série de papéis durante o tratamento do paciente, a fim de promover o sucesso da terapia e a adaptação do cliente ao novo estilo de vida. **Descritores:** Insuficiência Renal; Hemodiálise; Cuidados de Enfermagem.

#### RESUMEN

**Objetivo:** identificar el papel de las enfermeras en la atención a los pacientes en hemodiálisis. **Método:** una revisión integradora guiada por la pregunta << *Lo que el conocimiento científico disponible sobre el papel de las enfermeras en la atención al paciente en hemodiálisis?* >> En las bases de datos LILACS y BDNF y SciELO biblioteca virtual, con selección de 15 publicaciones. **Resultados:** en cuanto a la caracterización de las publicaciones, 2011 y 2013 fueron los años en los que hubo un mayor número de artículos publicados. Los temas más abordados fueron: educación para la salud, procedimientos de enfermería y la calidad de vida de los pacientes en hemodiálisis, que muestra la diversificación de las actividades llevadas a cabo por los profesionales de enfermería en el tratamiento y la rehabilitación. **Conclusión:** el profesional de enfermería desarrolla una serie de funciones durante el tratamiento del paciente con el fin de promover el éxito de la terapia y el cliente adaptarse al nuevo estilo de vida. **Descriptores:** Insuficiencia Renal; Hemodiálisis; Cuidados de Enfermería.

<sup>1</sup>Nurse, Federal University of Piauí/UFPI. Teresina (PI), Brazil. Email: [lcnoletoenfermagem@hotmail.com](mailto:lcnoletoenfermagem@hotmail.com); <sup>2</sup>Nurse, Federal University of Piauí/UFPI. Timon (MA), Brazil. Email: [amanda\\_cfonseca@hotmail.com](mailto:amanda_cfonseca@hotmail.com); <sup>3</sup>Nurse, Professor, Graduate/Postgraduate Nursing Program, Federal University of Piauí/UFPI. Teresina (PI), Brazil. Email: [mhelenal@ufpi.edu.br](mailto:mhelenal@ufpi.edu.br); <sup>4</sup>Nurse, Master Teacher, Bachelor of Nursing, Federal University of Piauí/UFPI. Teresina (PI), Brazil. Email: [oenf@uol.com.br](mailto:oenf@uol.com.br); <sup>5</sup>Nurse, Master Teacher, Bachelor of Nursing, Federal University of Piauí/UFPI. Teresina (PI), Brazil. Email: [machado@ufpi.edu.br](mailto:machado@ufpi.edu.br)

## INTRODUCTION

It conceptualizes the Chronic Renal Failure (CRF) as a complex syndrome resulting to loss, usually slow and progressive, of renal excretory capacity. This concept can be translated by the progressive reduction in glomerular filtration, principal toxic solute excretion mechanism generated by the body.<sup>1</sup> The etiology is mainly related to three conditions: Diabetes Mellitus (DM), systemic arterial hypertension (SAH) and Glomerulonephritis.<sup>2</sup> Once installed the CRF, it is necessary a treatment to replace kidney function.

The modalities for the treatment of CRF are hemodialysis, continuous ambulatory peritoneal dialysis, automated outpatient dialysis and kidney transplantation, which enable the maintenance of life of these patients. The choice of method of treatment should be individualized, considering the clinical, psychological and socioeconomic characteristics of the patient. Among the renal replacement therapies (TRS), there is hemodialysis (HD).<sup>3</sup>

HD is a treatment that uses equipment and high-tech materials to perform the process of removing toxic substances and excess of body fluids and requires the patient to remain connected to an extracorporeal system through arteriovenous fistula punctures, with an average duration of four hours, three times a week the the clinical state of the patient.<sup>4</sup> HD and TRS are the most frequently employed treatment for CRF, which requires the patient to stable heart function.<sup>5</sup>

This therapy, over the years, gives patients greater longevity and is safe and well tolerated considered patients with CKD. However, the complications inherent in this process are still frequent, and are responsible for significant morbidity and mortality values.<sup>5</sup> In this there are adverse events that occur during the provision of health care that result in harm to the patient, Which can be physical, social and psychological, including illness, injury, suffering, disability and death.<sup>6</sup>

The nursing staff, which operates in the dialysis services, must actively participate in the treatment of chronic renal patients; it is responsible for all of the technical procedures and patient's relationship with the environment, evidencing the importance of qualification and knowledge that professionals have to act in the face of adversity and complications from the treatment itself and kidney disease. The monitoring, detection and intervention against these illnesses are a

differential to minimize, prevent and improve the quality of life of these patients.<sup>7</sup>

This study is justified, since the synthetic meeting that knowledge is an important step to support the work of the nursing team in search for improvements in the quality of services and preventing complications, as well as promoting further research and actions of teaching and learning. In this sense, the objective is to identify the role of nurses in patient care under hemodialysis.

## METHOD

It is an integrative review that, for its execution, the following methodological steps were considered: theme identification and research question; conducting the search for corresponding data in the literature; definition of information to be extracted from the selected studies; presentation and interpretation of research results.

The first step, considering that a study in the form of integrative literature review, should be guided by a question or hypothesis. Thus, this study was guided by the following question: What is the available scientific knowledge on the role of nurses in patient care under hemodialysis?

In the second stage we performed a study of the literary corpus in the following databases: Latin American and Caribbean Health Sciences (LILACS), Nursing Database (BDENF) and virtual library Scientific Electronic Library Online (SciELO) to identify published studies, the following descriptors were used: renal failure, dialysis and nursing care; and there were made associations between them, which are: renal failure and dialysis, hemodialysis and nursing care, and renal failure, dialysis and nursing care. This survey totaled 1576 papers about this topic.

To select the sample, the following criteria were adopted: included publications were made available in full, in Portuguese, published from January 2009 to December 2013, and excluding non-relevant themes within the scope of the review and repetition on the same basis or on more than one database of articles, being found 15. Data collection occurred during the months of December 2013 and January 2014.

In the third step, it has been started to the identification procedure of information relevant to the purpose of the proposed study. To make it viable, a roadmap was prepared by the researchers, covering essential information for research, such as: article title, publication year, journal in which the study was published, authors, institution and where the research was conducted, and a

topic to insert excerpts from the discussion and conclusion of the selected articles.

In the fourth step, the material obtained from the characterization of the inserted studies in the research was quantitatively grouped by frequency and percentage and presented descriptively and through graphics; and discussion of the research was conducted according to the established themes, which

aimed to correlate the findings of the analyzed studies.

RESULTS

According to the selected descriptors and the search in the databases, there were identified 1576 articles. After applying the inclusion and exclusion criteria and detailed reading of titles and abstracts, 15 studies were selected (Figure 1).

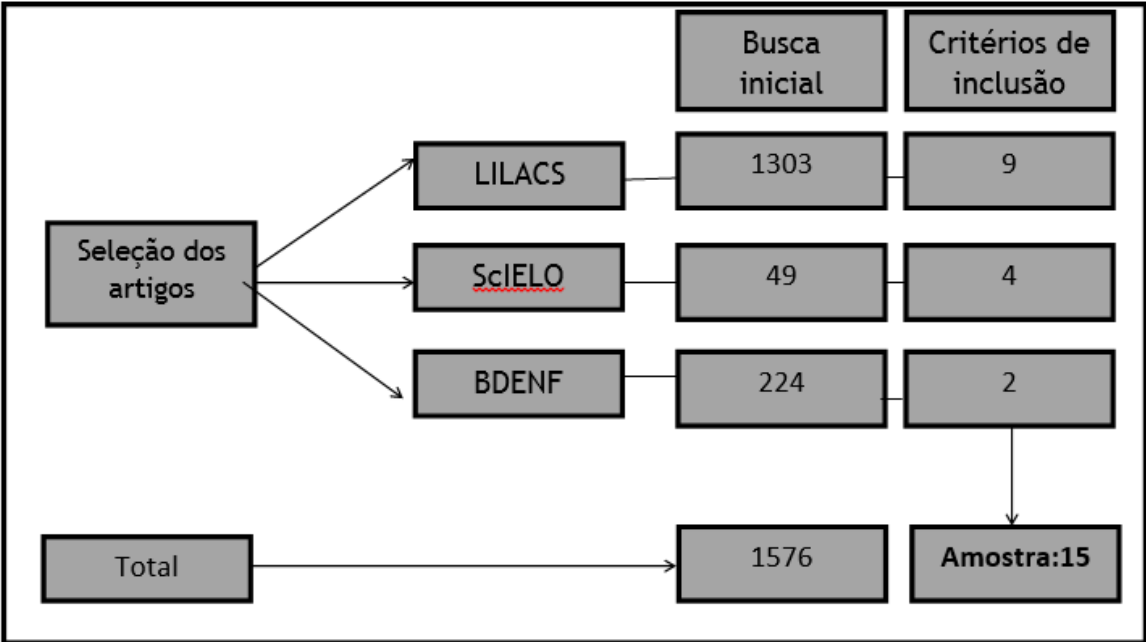


Figure 1. Flowchart of the selection of articles. Teresina, 2014.

Table 1 shows the quantities of articles published per year. Among the 15 selected for study sampled, 13% (n = 2) were published in 2009; 20% (n = 3) 2010; 27% (n = 4) in 2011;

13% (n = 2) in 2012; and 27% (n = 4) in 2013, noting how most of the articles were published in the years 2011 and 2013.

Table 1. Articles found per year. Teresina, 2014.

| Year | n=15 | %  |
|------|------|----|
| 2009 | 2    | 13 |
| 2010 | 3    | 20 |
| 2011 | 4    | 27 |
| 2012 | 2    | 13 |
| 2013 | 4    | 27 |

It can be seen in Table 2, 93% (n = 14) of articles were obtained from nursing journals and 7% (n = 1) from the Public Health Magazine, and 7% (n = 1) of the School Journal Anna Nery, 7% (n = 1) of the Paulista Acta, 13% (n = 2) of the Gaucha Nursing Magazine, 13% (n = 2) of the Brazilian Journal of Nursing,

26,5% (n = 4) of the Journal Care is Fundamental and 26,5% (n = 4) of the Journal of the State University of Rio de Janeiro, so the greatest amount of items used in the preparation of this study Magazines were published in the State University of Rio de Janeiro and Care is Fundamental.

Table 2. Distribution of articles by journals. Teresina, 2014.

| Journal                                            | n=15 | %    |
|----------------------------------------------------|------|------|
| Magazine of the School Anna Nery                   | 1    | 7    |
| Magazine of the State University of Rio de Janeiro | 4    | 26,5 |
| Gaucha Nursing Magazine                            | 2    | 13   |
| Public Health Magazine                             | 1    | 7    |
| Brazilian Nursing Magazine                         | 2    | 13   |
| Acta Paulista                                      | 1    | 7    |
| Magazine Care is Fundamental                       | 4    | 26,5 |

Through Table 3 it turns out that 40% of articles (n = 6) predominantly address the importance of professionals in performing activities for health education under hemodialysis process; 27% (n = 4) describe

about performing nursing procedures related to treatment; 27% (n = 4) are related to the importance of professionals in improving the quality of life of patients; and 6% (n = 1)

address both thematic Education in Health as                      nursing                      procedures.

**Table 3.** Distribution of the articles per theme. Teresina, 2014.

| Theme                                          | n= 15 | %  |
|------------------------------------------------|-------|----|
| Health Education                               | 6     | 40 |
| Nursing Procedures                             | 4     | 27 |
| Quality of life of patients under hemodialysis | 4     | 27 |
| Health education and Nursing Procedures        | 1     | 6  |

DISCUSSION

Chronic Kidney Disease (CKD) is presented as a worldwide public health problem<sup>7-11</sup>, by progressive increases of incidence<sup>8-9</sup> and prevalence<sup>8-11</sup> rates, and high morbidity and mortality<sup>8-9</sup>, impacts of its chronic complications and high social and economic costs.<sup>10</sup>

Given these conditions, there is a growing number of patients requiring dialysis for life, and therefore, it is inevitable to associate the completion of hemodialysis to maintain the same, since this treatment replaces the vital functions.<sup>11</sup> The progressive increase of patients under treatment can be seen from the analysis of the 2010 census of the Brazilian Society of Nephrology, showing an estimated 92.091 of customers in TRS, of these, 90.6% were HD.<sup>4</sup>

It is generally observed that the compliance to the treatment is related to non-acceptance of the disease, the perception of self and interpersonal relationships with family members. So, take action and thinking related to assistance to patients should be priorities for nursing.<sup>12</sup>

The nursing professional is essential to a more enlarged view of their customers, covering physical, psychological, social and environmental aspects to understand the real care needs of these individuals.<sup>2</sup>

◆ Health Education

Health education, as one of the main nursing actions in the production of health, facilitates the clients' understanding about the disease, its therapeutic and consequences, encourages their participation in actions aimed at prevention and the possible development of chronic complications arising the CRF and HD, thus promoting better adherence to treatment and changes in lifestyle.<sup>4-5</sup>

Prepare the patient for HD is a challenge for nurses, and it must establish a trust through which the customer feel encouraged to question and not just be a passive individual under treatment, paying attention to the physiological and physical changes that occur during the course of the disease.<sup>13</sup> The different forms of care with the client should be encouraged through the creation of a therapeutic bond, in which institutional

barriers and economic and socio-cultural differences should be deconstructed.<sup>14</sup>

The family should be an integral part in the care to individuals under hemodialysis and the institution where patients make treatment should favor the strengthening of the bond between family/patient, professional/patient and health service/professionals.<sup>15</sup> The involvement of the family with the health team provides a targeted assistance to customer needs more effectively on compliance.<sup>4</sup>

There are the education and health promotion activities in groups to meet such demands, enabling the elevation of the patient's level of knowledge, acceptance of his limits and his application in society. The educational activity in the waiting room provides a therapeutic listening to patients and families allowing realize their desires and doubts about the disease and its chronicity.<sup>10</sup>

The customer orientation process must continuously occur and the nursing staff to assist them in identifying advantages and disadvantages of attitudes to hemodialysis, thus encouraging them to reflect on the maintenance of their health properly and reflections the disease on the body of each.<sup>1</sup>

◆ Nursing procedures

In the act of caring, nursing establishes interaction between the subjects involved, in order to occur a technical action and sensitive with respect to patients. Therefore, it is necessary to absorb the care and turn it into lifestyle. The link between the nursing staff and the customer becomes a facilitator for assistance.<sup>13</sup>

The venous catheter is fast, safe and temporary option to perform HD for short periods of time, while the maturation of the arteriovenous fistula (AVF).<sup>11</sup> Nursing professionals must act systematically in the care necessary to maintain the catheter infection prevention<sup>7,11</sup> and properly handling the system<sup>7</sup> and following the rules of antisepsis in making the dressing<sup>11</sup>,as this procedure is as important as the very catheter implantation.

Infectious signals may appear at the beginning or during the hemodialysis session; at the beginning may be related to contamination by handling catheters or needles or reuse of dialysis capillary.<sup>7</sup> Thus,

the dressing should be performed before starting dialysis, the professional nurse, directly responsible for the execution of complex tasks, which should pay attention to the occurrence of redness, swelling, heat, headache, chills, nausea or vomiting.<sup>11</sup>

After a maturing time of FAV, which is at least four weeks, the nurse may carry out the first puncture, keeping a distance of five centimeters between artery and vein, providing economy of the proximal vessels, which can be used as anatomic sites for buildings future. The ideal fistula is the one with the long, superficial paths, allowing multiple points of puncture.<sup>16</sup>

When performing the healing of the AVF, the nursing professional should make light compression with gauze for about five minutes until there is complete hemostasis, so that it can apply occlusive dressing. It is important to ask whether the patient is allergic to the adhesive tape to be used for fixing.<sup>16</sup>

Immediately after completion of dressing, the nursing professional must record the procedure, covering the following information: type of catheter, location of access, catheter dwell time, antiseptics and/or antibiotics used, the presence of inflammatory signs and local complications.<sup>11</sup>

It is fundamental to nursing professionals recognize the complications of AVF<sup>13,16</sup>, as low-flow, thrombosis, infection, aneurysm and hand ischemia. Such knowledge enables it to provide quality care to the client under hemodialysis,<sup>16</sup> seeking strategies aimed at the prevention, monitoring and treatment of complications during and resulting from hemodialysis.<sup>17</sup>

The HD client should be guided by the nursing staff continuously and directly taking care of his fistula. The patient should be able to understand the operation of his vascular access and the importance of precautionary measures to prevent its ineffectiveness.<sup>13</sup>

#### ♦ Quality of life of patients undergoing hemodialysis

The World Health Organization understand the concept of quality of life (QOL) as the individual's perception of his position in life in the context of his culture and value system in which he lives and in relation to his expectations, standards and concerns.<sup>18</sup>

Improve QOL and patient survival, as well as prevent and reduce the complications of TRS have been constant concerns of health professionals, since the number of stage renal grown in recent years. An investigation of QOL in hemodialysis patients is needed to support the guidance in the planning of nursing care.<sup>3</sup>

Changes in lifestyle brought about by the CRF and the dialysis cause physical limitations, sexual, psychological, family and social that may interfere with the patient's QOL. Thus, it is necessary that nurses consider the relevance of these issues in their approach and in preparing their plan of care.<sup>9</sup>

The QOL is a strong indicator of evaluation of care provided by health services, combining the health-disease to the effectiveness of the procedures used for the treatment and rehabilitation. Therefore, it is important to conduct this evaluation through which it intends to provide subsidies so that the health team has a perception about the impact of this condition on the patient's life,<sup>2</sup> since the meaning of the disease, the person, involves being aware the potentially injurious effects of limitations, as the activities of personal care and other forms of everyday life, whether at home or at work.<sup>19</sup>

Chronic renal patients often abandon the treatment or neglect the care they should have and this uncooperative behavior is a constant concern for both the customers themselves and their families, and for the interdisciplinary team.<sup>3</sup> Then, nursing professionals should act more closely to these patients, recognizing their perceptions forward to facing limitations and dialysis.

#### CONCLUSION

The hemodialysis treatment is ongoing and sustains the life of the patient; although there is the routine, the health professional and the client every day establish a different form of communication and from the understanding of this communication assistance to the clientele becomes effective, as if there is this perception, the shares will be purely technician.

Nursing professionals to be grounded in scientific knowledge should be used for their educational role to educate patients about their restrictions and responsibilities in the treatment, stimulating behavioral change and prevent potential complications.

The technical and scientific knowledge, advances and discoveries of the dialysis treatment are essential, but, as important as the possibilities of treatment is the sensitivity of health professionals, especially nurses in reducing the emotional tension, thus facilitating their adapt to changes in lifestyle, promoting improved customer QOL.

Therefore, for the success of dialysis are needed trained professionals willing to work in conjunction with the multidisciplinary team, with patients and their families.

## REFERENCES

1. Branco JMA, Lisboa MTL. Adherence to hemodialysis by chronic renal patients: strategies for nursing. Rev enferm UERJ [Internet]. 2010 [cited 2014 Dec 14];18(4):578-83. Available from: <http://www.facenf.uerj.br/v18n4/v18n4a13.pdf>
2. Takemoto AY, Okubo P, Bedendo J, Carreira L. Avaliação Evaluation of quality of life in elderly undergoing hemodialysis. Rev gaúch enferm [Internet]. 2011[cited 2014 Dec 14];32(2):256-62. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1983-14472011000200007](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1983-14472011000200007)
3. Frazao CMFQ, Ramos VP, Lira ALBC. Quality of life of patients undergoing hemodialysis. Rev enferm UERJ [Internet] 2011;19(4):577-82. Available from: <http://www.facenf.uerj.br/v19n4/v19n4a12.pdf>
4. Beuter M, Muller LR, Brondani CM, Pauletto MR, Timm AMB, Perlini NMOG. A adesão de indivíduos em terapia hemodialítica. Rev pesqui cuid fundam [Internet]. 2013 [cited 2014 Dec 14];5(2):3558-66. Available from: [http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/2147/pdf\\_716](http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/2147/pdf_716)
5. Frota OP, Borges NMA. Complicações Crônicas relacionadas ao Tratamento Hemodialítico em Hipertensos: Revisão Integrativa. Rev pesqui cuid fundam on line [Internet]. 2013;5(2):3828-36. Available from: [http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/2098/pdf\\_769](http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/2098/pdf_769)
6. World Health Organization (WHO). The International Classification for Patient Safety (ICPS): Taxonomy - more than words [Internet]. Geneva, 2009 [cited 2014 Dec 14]. Available from: <http://www.who.int/patientsafety/taxonomy/en/>
7. Pivatto DR, Abreu IS. Principais causas de hospitalização de pacientes em hemodiálise no município de Guarapuava, Paraná, Brasil. Rev gaúch enferm. [Internet] 2010[cited 2014 Dec 14];31(3):515-20. Available from: [http://www.scielo.br/scielo.php?pid=S1983-14472010000300015&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S1983-14472010000300015&script=sci_arttext)
8. Silva GM, Gomes IC, Machado EL, Rocha FH, Andrade EIG, Acurcio FA et al. Uma avaliação da satisfação de pacientes em hemodiálise crônica com o tratamento em serviços de diálise no Brasil. Revista de Saúde Coletiva [Internet]. 2011 [cited 2014 Dec 14];21(2):581-600. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0103-73312011000200013&lng=en&nrm=iso&tlng=pt](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-73312011000200013&lng=en&nrm=iso&tlng=pt)
9. Silva AS, Silveira RS, Fernandes GFM, Lunardi VL, Backes VMS. Percepções e mudanças na qualidade de vida de pacientes submetidos à hemodiálise. Rev bras enferm [Internet]. 2011[cited 2014 Dec 14];64(5):839-44. Available from: [http://www.scielo.br/scielo.php?pid=S0034-71672011000500006&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S0034-71672011000500006&script=sci_arttext)
10. Silva MCOS, Silva KL, Silva PAB, Silva LB, Vaz FMO. A sala de espera como espaço de educação e promoção de saúde à pessoa com insuficiência renal crônica em hemodiálise. Rev pesqui cuid fundam. [Internet] 2013 [cited 2014 Dec 14];5(3):253-63. Available from: [http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/1745/pdf\\_864](http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/1745/pdf_864)
11. Nascimento VPC, Abud ACF, Inagaki ADM, Daltro AST, Viana LC. Avaliação da técnica de curativo em cliente com acesso venoso para hemodiálise. Rev enferm UFRJ [Internet]. 2009[cited 2014 Dec 14];17(2):215-9. Available from: <http://www.facenf.uerj.br/v17n2/v17n2a13.pdf>
12. Bisca MM, Marques IR. Perfil de diagnósticos de enfermagem antes de iniciar o tratamento hemodialítico. Rev bras enferm [Internet]. 2010 [cited 2014 Dec 14];63(3):435-9. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0034-71672010000300014&lng=en&nrm=iso&tlng=pt](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-71672010000300014&lng=en&nrm=iso&tlng=pt)
13. Moreira AGM, Araujo STC, Torchi Ts. Preservação da fístula arteriovenosa: ações conjuntas entre enfermagem e cliente. Esc Anna Nery Rev Enferm [Internet] 2013 [cited 2014 Dec 14];17(2):256-62. Available from: [http://www.scielo.br/scielo.php?pid=S1414-81452013000200008&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S1414-81452013000200008&script=sci_arttext)
14. Xavier BLS, Santos I. Sentimentos e expectativas de clientes com doença renal crônica aguardando transplante renal. Rev pesqui cuid fundam on line [Internet]. 2012[cited 2014 Dec 14];4(4):2832-40. Available from: [http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/1959/pdf\\_623](http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/1959/pdf_623)
15. Barreto MS, Marcon SS. Doença renal crônica: vivências e expectativas do cuidador. Rev enferm UERJ [Internet]. 2012[cited 2014 Dec 14];20(3):374-9. Available from: <http://www.e-publicacoes.uerj.br/index.php/enfermagemuerj/article/view/2193/2886>
16. Ribeiro RCHM, Miranda ALL, Cesarino CB, Bertolin DC, Ribeiro DF, Kusumota L.

Necessidades de aprendizagem de profissionais de enfermagem na assistência aos pacientes com fístula arteriovenosa. Acta paul enferm [Internet]. 2009 [cited 2014 Dec 14];(spe):515-8. Available from: [http://www.scielo.br/scielo.php?pid=S0103-21002009000800012&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S0103-21002009000800012&script=sci_arttext)

17. Oliveira APC de, Sousa AS, Mendonça AEO, Silva RAR da. Complicações intradialíticas em pacientes com insuficiência renal crônica submetidos à hemodiálise: revisão integrativa. J Nurs UFPE on line [Internet]. 2013[cited 2014 Dec 14];7(Esp):6639-45. Available from: [http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/2547/pdf\\_4024](http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/2547/pdf_4024)

18. The Whoqol Group. The World Health Organization Quality of Life assessment (Whoqol): position paper from the World Health Organization. Social Sci Med. 1995; 41(10): 1403-9.

19. Bury M. Health and illness in a changing society. London: Routledge; 1997.

Submission: 2015/09/02

Accepted: 2015/10/04

Publishing: 2015/12/15

#### Corresponding Address

Lais Cristina Noletto  
Rua Miguel Couto, 1341  
Bairro Lourival Parente  
CEP 64023-550 – Teresina (PI), Brazil