

## Nursing diagnosis in adults on hemodialysis

*Diagnósticos de enfermagem em adultos em tratamento de hemodiálise*

*Diagnósticos enfermería en adultos en tratamiento de hemodiálisis*

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### ABSTRACT

**Objective:** to analyze the nursing diagnoses present in adults from a hemodialysis clinic in Petrópolis - Rio de Janeiro. **Methods:** This is a cross-sectional, exploratory and descriptive study. Twenty patients were evaluated from April to May 2006. The data collection instruments used were: Interview and physical examination. **Results:** half the patients were women, most were married, and had, in average, two children. Sixteen nursing diagnosis were identified, four of which were above the 75 percentile: Risk of infection; ineffective tissue perfusion: renal; Disturbed sleep pattern and activity intolerance. **Conclusion:** The study provided better knowledge about the reality of patients' lifestyle, thus contributing with the implementation of a more efficient nursing action in order to solve specific problems.

**Keywords:** Renal insufficiency, chronic; Renal dialysis; Nursing diagnosis

### RESUMO

**Objetivo:** Analisar a distribuição dos diagnósticos de enfermagem presentes em adultos de uma clínica de hemodiálise de Petrópolis - Rio de Janeiro. **Métodos:** Estudo quantitativo do tipo transversal, de caráter exploratório e descritivo. Foram avaliados 20 pacientes nos meses de abril e maio de 2006. Os instrumentos de coleta de dados foram: roteiro de entrevista e exame físico. **Resultados:** Verificou-se que metade eram mulheres, sendo a maioria casada, com média de 2 filhos. Foram identificados 16 diagnósticos de enfermagem, quatro desses acima do percentil 75, são eles: Risco de infecção; Perfusão tissular ineficaz: renal; Padrão de sono perturbado e Intolerância à atividade. **Conclusão:** O estudo proporcionou maior conhecimento da realidade desses pacientes, contribuindo para uma possível implementação de ações de enfermagem mais eficientes para a solução dos problemas identificados.

**Descritores:** Insuficiência renal crônica; Diálise renal; Diagnósticos de enfermagem

### RESUMEN

**Objetivo:** Analizar la distribución de los diagnósticos de enfermería presentes en adultos de una clínica de hemodiálisis de Petrópolis - Rio de Janeiro. **Métodos:** Se trata de un estudio cuantitativo de tipo transversal, de carácter exploratorio y descriptivo. Fueron evaluados 20 pacientes en los meses de abril y mayo del 2006. Los instrumentos de recolección de datos fueron: una guía de entrevista y examen físico. **Resultados:** Se verificó que la mitad eran mujeres, siendo la mayoría casadas, con un promedio de 2 hijos. Se identificaron 16 diagnósticos de enfermería, cuatro de ellos encima del percentil 75, que son: Riesgo de infección; Perfusión tisular ineficaz: renal; Patrón de sueño perturbado e Intolerancia a la actividad. **Conclusión:** El estudio proporcionó mayor conocimiento de la realidad de esos pacientes, contribuyendo a una posible implementación de acciones de enfermería más eficientes para la solución de los problemas identificados.

**Descriptores:** Insuficiencia renal crónica; Diálisis renal; Diagnósticos de enfermería

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## INTRODUCTION

In Brazil, the prevalence of patients on hemodialysis has doubled over the last years. The incidence of chronic renal insufficiency grows about 8% every year, and reached 18.000 patients in 2001. The cost of a dialysis program and renal transplant is about 1.4 billion Reais (Brazilian currency – R\$) per year<sup>(1)</sup>. Today there are 595 hemodialysis centers in Brazil, 58,464 patients with chronic renal insufficiency, with 52,176 on hemodialysis, 14.500 of which are in the age group of 15 to 29 years<sup>(2)</sup>.

Chronic renal insufficiency (CRI) is a clinical syndrome caused by the progressive and irreversible loss of renal functions, which results in uremia, which is the accumulation of uremic toxins in the organism<sup>(3)</sup>.

A disease with various effects on the patients' lives and its treatment is difficult, since it poses serious physical, psychological, and socio-economic implications not only for patients, but also for their family and the community<sup>(4)</sup>.

At first, as soon as the patient is diagnosed with CRI, he or she is submitted to conservative treatment, using medications and food restrictions<sup>(5)</sup>. Depending on how the disease evolves, the patient receives other forms of therapeutics. Treatment choices include: peritoneal dialysis, hemodialysis, and renal transplant. The choice for the best form of treatment should contemplate the analysis of the patient's physical, psychological, and financial conditions<sup>(6)</sup>.

Chronic renal patients should receive appropriate information regarding the new lifestyle they must assume, including hemodialysis sessions, specific diet, hygiene, and others. Therefore, patient response should be judged through professional nursing care. This recalls the systematization of nursing care, which contributes with the organization of the nurses' work and for a better relationship with the patients. Hence, this would provide better guidance of the care that nurses deliver to this clientele.

This issue and the experience of dealing with these patients arouse the interest to develop a study with a view to identify the nursing diagnoses present in young adults with chronic renal insufficiency on hemodialysis.

## METHODS

This cross-sectional quantitative study is also exploratory and descriptive. It was performed in a hemodialysis clinic located in the city of Petrópolis - Rio de Janeiro State. The population consisted of chronic renal patients on hemodialysis, whose population data were extracted from the registry system. The system listed 68 patients, and the sample consisted of 20 patients who met the study's inclusion criteria: being enrolled and on hemodialysis treatment; agree to participate in the study

by signing the consent form; be a young adult within the age group of 18 to 50 years<sup>(7)</sup>. The exclusion criteria were: be hospitalized at the moment of data collection; not be in appropriate physical and mental conditions to take part in the study; chronic renal patients with cancer, advanced heart disease; advanced pulmonary disease, progressive hepatic disease and vascular, coronary or extensive peripheral disease.

Data collection took place using an interview script, followed by the physical examination process, which were administered on the day of the patients' hemodialysis session. The data collection period was April and May 2006.

The data were organized in tables with absolute and percentage frequencies and confidence intervals (95%). To evaluate the nursing diagnoses, defining characteristics and associated factors, the mean values for central tendency and dispersion were presented.

The hemodialysis clinic provided the requested authorization for performing this study, and the patients involved provided their consent, according to the ethical and legal aspects of Resolution n.º 196/1996 of the National Health Council<sup>(8)</sup>, which defines the guidelines and regulating norms for research involving human beings.

## RESULTS

The results showed that 50% of patients were women, and the average age was 38.3 years ( $\pm 8.73$  years). Most adults on hemodialysis were in the age group of 41 to 50 years (55%). Regarding their marital status, 55% lived with partners, and the number of children ranged between 0 and 3 (85%). The average number of children was 1.95 ( $\pm 1.66$ ).

As to their origin, 75% of patients were from the interior of Rio de Janeiro, mainly from the city of Petrópolis. The family income ranged between 1 and 5 minimal salaries (R\$350.00 at that time), and most (80%) were within the range of 1 to 2.5 minimal salaries, with an average 1.77 salaries ( $\pm 1.06$ ).

Regarding the use of contraceptives, participants reported they used condoms and the pill. Most (65%), however, did not use any methods to avoid an unwanted pregnancy. As to their occupation, most patients were self-employed (35%). Concerning their educational level, 60% had incomplete primary education, and, as for religion, 45% were catholic.

Most patients (85%) were neither drinkers nor smokers. Dialysis time ranged between 0 and 96 months, with an average 37.20 months ( $\pm 26.85$ ).

The average nursing diagnoses identified in adult patients was 5.90 ( $\pm 1.33$ ). Of all patients, 25% presented five diagnoses or less, and 75% presented up to seven nursing diagnoses. In terms of the defining characteristics,

the average was 10.85 ( $\pm 3.74$ ). In terms of the number of defining characteristics, 25% of patients presented up to eight characteristics and 75% presented up to 13. The associated identified factors were in average 5.80 ( $\pm 1.32$ ). Up to 4.50 associated factors were present in 25% of the interviewees, and up to seven factors in 75%.

Thirty-three defining characteristics were defined in the studied patients. Eight defining characteristics were above the 75 percentile and were associated with vital signs, electrolytic balance, sexuality, activity, and sleep. The defining characteristics altered blood pressure, elevated levels of urea and creatine in the blood, and oliguria or anuria were present in 100% of the sample.

Sixteen nursing diagnoses were identified in the interviewed patients. Four of which were above the 75 percentile, including the diagnosis Risk for infection: belongs to the domain safety/protection and to the class of infection; the diagnoses ineffective tissue perfusion: renal, activity intolerance and disturbed sleep pattern belong to the domain activity / rest; the first and second belong to the class cardiovascular /pulmonary responses and the latter belongs to the class sleep / rest. The nursing diagnoses risk for infection and ineffective tissue perfusion: renal were present in the whole sample.

Twenty associated factors were identified, five of which were above the 75 percentile and were associated to oxygenation, sexuality, anxiety, and chronic disease. The associated factors exchange problem and chronic disease were present in the whole sample.

## DISCUSSION

Hemodialysis is a palliative treatment because it does not integrally recover the patient's health, causing physical wear, and mental and emotional stress<sup>(9)</sup>. Nurses, through the nursing diagnosis, are able to systemize their work and offer quality and tailored care to this clientele.

In a descriptive and exploratory study with chronic renal patients on hemodialysis, most patients were males, and their age ranged from 65 to 88 years (66 years in average). Most had primary education and were self-employed rural workers<sup>(10)</sup>. Our findings regarding education and occupation were close to those of the referred study.

In our study, patients were in average 38 years old, most lived with a partner and had approximately two children. Participants were originally from the interior of Rio de Janeiro State and had an average family income of two minimum salaries.

Most patients were young when diagnosed with CRI and submitted to dialysis. This treatment is generally done three times a week, which made it difficult for them to stay in school. Thus, the chronic renal patient quits school

and starts working early, and applies for early retirement due to invalidity, despite being in a full productive stage in life.

In our study, most interviewees (65%) did not use any contraceptive methods, 25% used condoms, and 10% used the pill. Renal insufficiency, in general, impairs the reproductive function, chiefly in females<sup>(11)</sup>.

The investigation of patients' life habits permits to gain knowledge about their clinical history. In our study, most patients did not drink or smoke, and had been on hemodialysis for 37 months, in average.

Abstinence from alcohol is one of the pre-requisites to get hemodialysis, because alcohol elevates one's blood pressure and thus makes treatment compliance more difficult<sup>(12)</sup>.

Attitudes like to quit smoking, reduce dislipidemia, and increase physical activities promote a better blood flow to the organ and, thus, potentially reduce the loss caused by the chronic renal disease<sup>(13)</sup>.

In another study<sup>(10)</sup>, nursing diagnoses were identified according to Gordon's functional health patterns, associated to nutrition and metabolism, activity and exercise, self-perception and self-concept, elimination, perception, and the relationship between roles. The diagnoses found were: High risk for infection, excess liquid volume, skin integrity deterioration, imbalanced nutrition, fatigue, deficient self-care, activity intolerance, deficient diversional activity deficit, chronic pain, deficient pharmacological knowledge, disturbed sensory perception: visual and auditory, low self-esteem, anxiety, hopelessness, diarrhea, impaired social interaction, impaired verbal communication, tiredness, ineffective health maintenance, disturbed sleep pattern, and ineffective sexual pattern.

A master's thesis<sup>(14)</sup> performed with renal transplant patients lists ten diagnoses that were above the 75 percentile: Risk for infection; disturbed sensorial perception: visual; disturbed sleep pattern; imbalanced nutrition: more than body requirements; fatigue; sexual dysfunction; disturbed sensory perception: auditory; acute pain; ineffective sexuality patterns; risk for imbalanced nutrition: more than body requirements.

The results in our study are close to those of the two referred studies<sup>(10, 14)</sup>. Sixteen nursing diagnoses were identified in young adults on hemodialysis: risk for infection (100%); ineffective tissue perfusion: renal (100%); disturbed sleep pattern (80%); activity intolerance (55%); ineffective sexuality patterns (45%); sexual dysfunction (40%); risk for loneliness (40%); fatigue (30%); ineffective therapeutic regimen management (25%); disturbed sensory perception: visual (20%); diarrhea (15%); risk for activity intolerance (15%); decreased cardiac output (10%); disturbed sensory perception: auditory (5%); imbalanced nutrition: more

than body requirements (5%), and social isolation (5%). The diagnoses with greater frequency were associated with the domains safety / protection and activity / rest.

The adults on hemodialysis presented several types of nursing diagnoses, associated factors and defining characteristics. Some diagnoses originated at the onset of the chronic renal disease, and continued throughout the treatment. The diagnoses identified in this study provided the information required to focus nursing care on this chronic renal clientele. The nursing interventions implemented for the identified diagnoses can contribute for a better direction in nursing care, thus providing this clientele with a better quality of life.

## CONCLUSION

The study was performed with 20 young adults on hemodialysis. Sixteen nursing diagnoses were found. Four diagnoses were above the 75 percentile: risk for infection (100%); ineffective tissue perfusion: renal (100%); disturbed sleep pattern (80%); activity intolerance (55%).

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