



CLINICAL ASPECTS OF PEOPLE WITH CHRONIC RENAL FAILURE IN CONSERVATIVE TREATMENT*

ASPECTOS CLÍNICOS DAS PESSOAS COM INSUFICIÊNCIA RENAL CRÔNICA EM TRATAMENTO CONSERVADOR

ASPECTOS CLÍNICOS DE LAS PERSONAS CON INSUFICIENCIA RENAL CRÓNICA EN TRATAMIENTO CONSERVADOR

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This study aimed to describe the social and clinical aspects of people with chronic renal failure undergoing conservative treatment in a first-aid post in the south region of Brazil. It is a descriptive research, developed with 15 people. Data were collected from March to May 2011, through documentary analysis and interviews with narrative experiences. The ages ranged from 19 to 85 years old and it was evident that most participants have as underlying diseases hypertension and diabetes mellitus. One concludes that the laboratory abnormalities are related to a worsening of the renal function, worsening of cardiovascular disease and increased morbidity and mortality. The conservative treatment reduces the rate of the disease's progression, maintaining the renal function and improving the clinical, psychological and social conditions of these people. The nurse can develop effective health education activities to promote health for these people.

Descriptors: Renal Insufficiency, Chronic; Therapeutics; Nursing; Chronic Disease; Life Change Events.

Objetivou-se descrever os aspectos sociais e clínicos das pessoas com insuficiência renal crônica em tratamento conservador em um ambulatório de uremia da região Sul do Brasil. Trata-se de uma pesquisa descritiva, desenvolvida com 15 pessoas. Os dados foram coletados no período de março a maio de 2011, por meio da análise documental e entrevista narrativa de vivências. A idade variou de 19 a 85 anos e evidenciou-se que grande parte dos participantes tem como doença de base a hipertensão arterial sistêmica e o diabetes mellitus. Conclui-se que as alterações laboratoriais estão relacionadas à piora da função renal, agravamento das doenças cardiovasculares e aumento da morbidade e mortalidade. O tratamento conservador reduz o ritmo de progressão da doença, mantendo a função renal e melhorando as condições clínicas, psicológicas e sociais das pessoas. O enfermeiro pode desenvolver atividades de educação em saúde efetivas na promoção da saúde dessas pessoas.

Descritores: Insuficiência Renal Crônica; Terapêutica; Enfermagem; Doença Crônica; Acontecimentos que Mudam a Vida.

El objetivo de la investigación fue describir las necesidades sociales y clínicas de personas con insuficiencia renal crónica en tratamiento conservador en una uremia ambulatoria de la región sur del Brasil. Investigación cualitativa con 15 personas. Los datos fueron recolectados entre marzo y mayo de 2011, a través del análisis documental y entrevista narrativa. La edad osciló entre 19 y 85 años y la mayoría de los participantes tenían como enfermedades de base hipertensión y diabetes mellitus. Los cambios de laboratorio están relacionados con agravios de la función renal, de la enfermedad cardiovascular y aumento de la morbilidad y mortalidad. El tratamiento conservador reduce la tasa de progresión de la enfermedad, mantiene la función renal y mejora las condiciones clínicas, psicológicas y sociales. El enfermero puede desarrollar actividades de educación en salud eficaces en la promoción de la salud de estas personas.

Descritores: Insuficiencia Renal Crónica; Terapéutica; Enfermería; Enfermedad Crónica; Acontecimientos que Cambian la Vida.

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INTRODUCTION

The incidence of people with Chronic Kidney Disease (CKD) has been increasing significantly worldwide, reaching alarming numbers of individuals with kidney failure. CKD affects about 10-16% of the adult population worldwide and in Brazil around 22.3 to 44% of the urban population. This is a public health problem whose highest prevalence is in people with a diagnosis of diabetes mellitus (DM) and systemic hypertension (SH)⁽¹⁻²⁾.

The kidney disease is classified based on the level of renal function in six stages (zero to five), which vary according to the glomerular filtration rate (GFR), indicating the progressive loss of the renal function. From stage two on, the glomerular filtration rate is $<90\text{ml}/\text{min}/1.73\text{m}^2$, characterizing the beginning of CKD. CKD may progress until stage five, in which GFR is $<15\text{ml}/\text{min}/1.73\text{m}^2$, being called end-stage renal or dialysis disease⁽²⁾.

The person with CKD has several clinical and laboratory alterations, which are diagnosed, corrected or alleviated with treatment. With the progression of the kidney disease, other organs and systems are involved and begin to function abnormally, due to the inability of the kidneys to maintain the metabolic and hydroelectrolytic balance⁽²⁾.

The treatment depends on the evolution of the disease. Conservative treatment is indicated in the beginning of the disease and implemented mainly through medication, diet restrictions, consultations and periodic evaluations. This therapeutic modality is indicated in all stages of CKD, however, with the progression of CKD, renal replacement therapies (RRT) are indicated, such as hemodialysis, peritoneal dialysis and renal transplantation in the last stage of CKD, which may occur as soon as one starts this stage or according to people's clinical conditions. Considering that the staging of CKD has protocols for appropriate clinical and therapeutic interventions at each stage of the disease,

the RRT occurs at the appropriate time in each situation⁽¹⁾.

Conservative treatment aims to: help reduce the rate of renal disease's progression; maintain kidney function; improve the clinical, psychological and emotional conditions of individuals. Normally, this treatment is performed in first-aid posts accompanied by a multidisciplinary team. Individuals with CKD who are diagnosed early and treated regularly, can reduce the disease's progression with conservative treatment, besides contributing to reduce the high social costs with RRT⁽³⁾.

Conservative treatment involves measures for health promotion and primary prevention in high-risk groups, early identification and detection of renal dysfunction; correction of reversible causes of the renal disease, etiologic diagnosis, definition and staging of renal dysfunction; institution of interventions to slow the progression the CKD; prevention of complications of renal disease and early planning of the RRT⁽²⁾. The treatment also provides the strict control of blood glucose in diabetic patients and blood pressure in all the patients, correction of anemia, the suspension of cigarettes to slow the progression of CKD, and the adjustment in the dosages of drugs excreted by the kidneys⁽¹⁾.

Despite the benefits to the patient, this treatment usually causes frustration and limitations due to various dietary and fluid restrictions. Therefore, the need for adaptation to the treatment is a source of demand for attention to these patients. In this context, it is known that people affected by CKD have needs that are different from other individuals, directly related to the process of loss of the renal function. The awareness of the multidisciplinary team for health education can be a motivating factor and create greater adherence to the treatment of these people, minimizing the lack of knowledge of aspects of the renal disease⁽⁴⁾.

Thus, one elaborated as a guiding question of this study: What are the social and clinical aspects of people with chronic renal failure undergoing conservative treatment followed in a first-aid post? To answer this question one aims to describe the social and clinical aspects of people with chronic renal failure undergoing conservative treatment in a first-aid post in a clinic from the south region of Brazil.

METHOD

This is a descriptive study with a qualitative and quantitative approach. It was developed in a first-aid post of a large public hospital, focused on the community's teaching, research and assistance, in the south region of Brazil. This first-aid post is part of a nephrology service, which attends the population twice a week. Data were collected from March to May 2011.

For data collection one used the documental analysis of the patients' experiences and narrative interviews. The documental analysis was performed with the purpose of collecting data which referred to the clinical variables, such as history, previous information, underlying diseases, diagnosis, type and duration of treatment, stage of CKD and glomerular filtration rate, and other relevant information. The narrative interview is a way to get access to meanings and experiences of individuals and their interpretive ways, which belongs to the reality of life, focusing on the human illness process⁽³⁾.

The participants met the inclusion criteria of the study: being adult or elderly; being diagnosed with CKD; being in treatment at the first-aid post; having a glomerular filtration rate (GFR) < 60 ml/min, which means to be in stage 3, or in subsequent stages, considering that from these stages on, the patient is diagnosed with moderate renal insufficiency, showing laboratory alterations and requiring more care and restrictions, besides presenting comprehension and verbal communication abilities, and knowing their

diagnosis of chronic renal failure. One highlights that the GFR has been checked on the records of the respondents and measured by the Cockcroft-Gault equation to calculate the creatinine clearance⁽²⁾.

Fifteen people were interviewed, and for determining the number of subjects, one took into account the data saturation criterion⁽⁵⁾. To better capture the data, interviews were audio recorded with the consent of the interviewees. The data, after collected, were transcribed and organized. The identity of the survey participants was preserved by encoding the letter I as in interviewee, followed by the interview number (I1, I2, I3, and so on).

The study was approved by the Research Ethics Committee of the institution under number 0366.0.243.000-10. One highlights that all the stages of the research met the requirements concerning ethics in research involving human beings, striving for confidentiality of the data obtained and respect for the participants. The informed consent form was signed by the participants after they were informed about the objectives of the study.

RESULTS

Fifteen subjects participated in this study, ten men and five women. Out of these, twelve were white and three black. The age of the respondents ranged from 19 to 85 years old, being seven adults and eight old people. Regarding education, one participant was illiterate, 12 had incomplete elementary education, one had completed elementary school, and another, had not finished high school.

Out of the people interviewed ten were married, two were single, two were widows and one was divorced. Among the married people, seven were living with their spouses and family members, and three with the spouse. As for the single ones, both lived with their families; concerning the widows, one lived alone and

another with her family, and the divorced woman lived alone.

Regarding the number of children, interviewees had from none to 17 children. Concerning their origin, eight were from the central region of Rio Grande do Sul; five from the city where the study was conducted, and two from the rural area. The hospital of the study is characterized by attending the central region of Rio Grande do Sul and the health demands of the population in general.

Concerning income, people reported earnings from one to three minimum wages. Two people reported supplementing their income with rental properties or by providing standalone services. The most frequent underlying disease was systemic hypertension (SH), present in 80% of the participants, and out of these, 25% had diabetes mellitus (DM) associated. The others presented risk factors to CKD, such as smoking, alcohol use, polycystic kidney and liver disease, gout and cardiovascular disease (CVD).

Concerning the time participants had been undergoing conservative treatment, it ranged from one to 13 years. Regarding the stage of CKD, it is noteworthy that six participants were in stage 3 (moderate or laboratory renal failure), five in stage 4 (severe or clinical renal insufficiency) and four in stage 5 (kidney failure or dialysis).

Out of the eight people who had been for more than eight years undergoing conservative treatment at this first-aid post, one was in stage 5 of CKD, two in stage 4 and five were in stage 3. From these data, one identified a decrease in the rate of the progression of CKD, considering that out of these people, only one was in stage 5, that is, with end-stage renal disease, requiring dialysis or when the RRT may be indicated. Out of the respondents who had been in conservative treatment from one to three years, one was in stage 3, three in stage 4 and three in stage 5 of CKD.

For the biochemical profile of these people one analyzed data related to metabolic disorders, such as: potassium, urea, calcium and phosphorus. At the beginning of the treatment 6.6% of the respondents had potassium levels above normal (hyperkalemia) and in the current phase of conservative treatment, that is, when the study was conducted, it increased to 46.6%.

At the beginning of the treatment 100% of the people had high levels of urea, but in 13.3% levels were closer to normal. At the beginning of the treatment 53.3% of the study participants had low calcium levels (hypocalcemia). At the time of the interview, 26.6% of these people had hypocalcemia.

At the beginning of the treatment the study participants who were in stage 5 were within normal levels of serum phosphorus and the subjects in stages 3 and 4 had hypophosphatemia (14.3%) and hyperphosphatemia (7.1%). In the period of the interviews 26.6% of the participants were in stage 5 of CKD, and out of these, 6.7% had hyperphosphatemia. The rest (73.4%) were in stages 3 and 4, and 13.3% of them had hyperphosphatemia.

Out of the patients in this study, 93% expressed the manifestation of clinical symptoms prior to the onset of the conservative treatment: *First there was the swelling on my feet, and I did not know what that swelling was, it happened in the summer, mainly, but it went away, you know! Little time after that, it started a period of swelling again and then the same doctor told me, the vision one, that it could be kidney problems... So I started the treatment here about two and a half years ago (I5). Others (doctors) said: "It's spine! Spine problems!". I felt that pain, an annoying thing, you know? On this side, this soft part here, we have in the back, they also said it was because of uric acid, as I had swollen feet... I took one year of treatment for uric acid but it didn't work, it was nothing, and it was all kidney problems (I10).*

The lack of information about the symptoms of CKD appears as a worsening of the disease. The diagnosis often slow and/or misleading may be a worsening factor in the situation of chronic kidney disease.

However, other causes of the development of CKD were identified in 54% of the study participants: *I had five bypass operations, you know? And I think that the kidney had a result like this, according to the doctors, due to an antibiotic I took, then my kidneys got bad (I11). I had a blocked artery in the kidney, it was almost closing. Then I put the so-called stent and got better. I always take blood pressure medication, I'm in treatment until today (I12). I was feeling bad and he (doctor) made an appointment for me, then I underwent the treatment, and I had renal calculus, I had it removed, I underwent surgery but I got worse. Then I came back here and they told me to remove it again. Then I always kept undergoing treatment here, and the treatment is taking care of myself (I13).*

Chronic Kidney Disease can have various causes, such as the nephrotoxic effect of drugs, obstruction of renal arteries and the development of calculus. In this perspective, the health promotion of these people is paramount to the prevention of health problems.

DISCUSSION

The distribution of dialysis patients, according to the age, was of 66.9% between 19 and 64 years old, 27.2% from 65-80 years old and 4.3% with age above or equal to 81 years old. Out of these people 57.3% were men and 42.7% women. The most frequent underlying diseases are SH, which affects 35.1% of people with CKD and DM, which has an incidence of 28.4%, according to the census of the Brazilian Society of Nephrology⁽⁶⁾. These data corroborate the distribution of age and underlying diseases in this study.

CKD is responsible for a series of changes in people's lives. The economic implications also refer to the difficulty of performing work activities, such as participation in the labor market, lower wages and early retirement⁽⁷⁾.

The proposals of interventions at different stages of the disease point to the start of RRT in stage 5, but in an appropriate moment, evaluating the clinical condition of the patient, such as the presence of uremic symptoms⁽¹⁾. However, it is known that the conservative treatment may be developed in all the stages of CKD.

One demonstrates that this therapeutic treatment reduces the rate of renal disease's progression, maintains the kidney function and improves the clinical, psychological and social conditions of the people. In addition, the structured nephrology care with an interdisciplinary team is associated with functional stabilization of the progression of CKD and with low mortality of people in conservative treatment⁽¹⁾.

Decreased renal function is followed by a series of laboratory abnormalities, and changes are also common in the metabolism of calcium, phosphorus, potassium and acid-base balance⁽²⁾.

Concerning the reference levels of potassium, it is known that they vary between 3.5 and 5.0 mEq/l⁽⁸⁾. The concern to keep plasma potassium in normal values is necessary because both hypokalemia and hyperkalemia are risk factors for cardiac arrhythmias and sudden death. In people with CKD and with DM there is a prevalence of hyperkalemia due to the use of medications that prevent the elimination of potassium in the urine⁽⁹⁾.

In relation to urea, the reference values are between 15 and 40 mg/dl⁽¹⁰⁾. The high consumption of protein, the tissue destruction, gastrointestinal hemorrhage and corticosteroid therapy may cause an increase in plasma urea levels. Serum urea levels are indicators of the kidney function. The increase in plasma urea can decrease blood flow to the kidney and cause urinary obstruction. Uremic symptoms include anorexia, nausea, vomiting, loss of attention and memory, drowsiness. However, urea is not a completely reliable index since its levels are more vulnerable to changes for reasons not related to the glomerular filtration rate⁽¹¹⁾.

Concerning serum calcium, the reference values vary between 8.4 and 9.5 mg/dl⁽¹²⁾. Hypocalcemia may be observed in CKD with decreasing creatinine clearance. Due to the increased supply of phosphorus in the diet, the little remaining calcium is consumed in the

calcium-phosphorus bond⁽¹³⁾. It is known that besides the known effects on bones, mineral disorders of calcium and phosphorus in patients with CKD have been associated with cardiovascular calcification and mortality⁽¹²⁾. It is noteworthy that the prevalence of cardiovascular diseases in people with kidney disease, including in pre-dialysis stage is 10-20 times higher than in the population in general⁽¹⁴⁾.

The levels of serum phosphorus have as reference values: 2.7 and 4.6 mg/dl (stages 3 and 4) and 3.5 and 5.5 mg/dl (stage 5)⁽¹²⁾. Elevated phosphorus levels are associated with higher rates of morbidity and mortality related to cardiovascular events⁽¹⁵⁾. When compared to the population in general, patients with CKD have a higher prevalence of traditional risk factors for cardiovascular diseases such as hypertension and dyslipidemia⁽¹⁶⁾.

In CKD, the body positively contributes to hyperphosphataemia by inhibiting the resorption of the bone matrix mineralization. Through the action of phosphorus, the skeleton plays an important role in the onset of cardiovascular morbidity due to vascular calcification⁽¹⁷⁾. Thus, the reduction of serum phosphorus leads to significant improvements in the quality of life of people with kidney disease⁽¹⁸⁾.

Changes in the biochemical profile of people with CKD undergoing conservative treatment are often related to dietary habits. The adoption of new dietary and life habits enables the maintenance of this treatment, however, they reflect on the loss of quality of life that is often related to the prohibition in the consumption of certain foods, drinks and practice of certain habits considered to be pleasant⁽³⁾.

Signs and symptoms of CKD, usually manifest themselves and are perceived only when the condition is installed in the body. The symptoms appear unexpectedly in advanced stages of the disease, and the treatment generates impact by the changes in the lifestyle habits and constraints required to the person⁽¹⁹⁾.

With advancing stages of CKD until the complete kidney failure, the person may experience physical problems such as back pain, weakness, tremors, cardiovascular alterations, edema and nausea. The main signs resulting from the loss of the renal function are hypertension; anemia; neurological signs, such as irritability and tremors; cardiovascular signs, such as pleural effusion; endocrinological signs, such as hyperglycemia and weight loss and metabolic signs, such as weakness⁽²⁰⁾.

In addition, CKD is usually an asymptomatic, slow and progressive disease, its early detection and convenient therapies slow the progression, and can reduce the patients' suffering. In people with hypertension, diabetes or with a family history of chronic kidney disease, there is a greater likelihood of development of the disease⁽²⁾.

Besides hypertension, diabetes mellitus and family history, systemic diseases, recurrent urinary infections, urinary stones, uropathy, nephrotoxic medications and polycystic diseases cause CKD, which can rapidly progress to renal failure⁽²⁾. Then, the prevention of the kidney disease and the health promotion need be extended beyond groups of hypertension and diabetes, which requires prevention policies, training, education and integration between basic and specialty networks.

Health promotion can be understood as measures to increase the overall health and well-being, emphasizing better conditions of life and work, not targeted to specific diseases or disorders, but in a broad way⁽³⁾. There is a need of understanding of the population's real necessities, especially of improvement in health education activities, which stimulate the health care of those people⁽⁴⁾.

The aggravation of the kidney disease is also associated with lack of continuity in the treatment, which may be related, often with poor access to health services and specialized knowledge and/or lack of clarity of health professionals in monitoring these people.

Activities in health education, particularly in the community, are suggested for being associated with reduced risk of cardiovascular events, controlling blood pressure and diabetes mellitus. One also highlights the importance of weight loss, reduction of alcohol intake, performance of regular physical activities and disruption of smoking in patients with chronic kidney disease or from the risk group⁽¹⁾.

CONCLUSION

The most frequent underlying diseases, identified in this study, were SH and DM. The main laboratory alterations were related to potassium, urea, calcium and phosphorus. One can identify that the metabolism of creatinine, urea, potassium, calcium and phosphorus are related to worsening of the renal function, worsening of cardiovascular diseases and increased morbidity and mortality. Thus, the nutritional guidelines provided in first-aid posts stimulate lifestyle changes to an adequate nutrition, preventing malnutrition, cardiovascular events and worsening of the renal function.

It was evident in this study that the conservative treatment of CKD can slow the progression of the renal disease and thus delay the onset of renal replacement therapies, stimulating quality of life by improving the clinical, psychological and social conditions.

One highlights the importance of health professionals to be aware of the initial symptoms and risk factors of CKD. Early detection of renal dysfunction is essential for the disease to be discovered at an early stage, in time for the conservative treatment to be a measure of renal protection. Thus, the nurse, as a member of the health team, can enable the development of effective health education activities in health promotion for people with CKD undergoing conservative treatment or at risk to develop it.

COLLABORATIONS

Roso CC and Beuter M contributed to the creation, data collection, analysis, interpretation of data, drafting of the article and final approval of the version to be published. Bruinsma JL and Silva JH contributed to the data collection, data analysis and drafting of the article. Timm AMB and Pauletto MR contributed to the interpretation of data, drafting of the article and final approval of the version to be published.

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