EVALUATION OF BONE PAIN IN PATIENTS WITH RENAL CHRONIC WITH MINERAL DISORDER

ABSTRACT
Objective: to evaluate the pain experienced by patients with Mineral and Bone Disorder of Chronic Kidney Disease (CKD-MBD) undergoing hemodialysis treatment in a clinic satellite Natal, Rio Grande do Norte, Brazil. Method: exploratory study with a quantitative approach. After approval by the Ethics in Research Committee, protocol 176/176/2011, data were collected through semi-structured interviews and analyzed by univariate statistical and descriptive. Results: sample of 35 patients, the majority reported some type of bone pain, thus, legs and spine were the most frequently mentioned places. Conclusion: the pain experienced by patients with CKD-MBD negative impact on quality of life and daily life of these people, and that the intensity of the pain felt is softened by applying cold compress, analgesics, anti-inflammatory and rest. Descriptors: Chronic Renal Failure; Renal Osteodystrophy; Pain; Nursing.

RESUMEN
Objetivo: evaluar la intensidad y distribución de la dor de pacientes con distúrbio mineral y óseo de la enfermedad renal crónica (CKD-MBD) en tratamiento de hemodiálisis en una clínica satélite Natal, RN, Brasil. Método: estudio exploratorio con enfoque cuantitativo. Tras la aprobación por el Comité de Ética en Investigación LEAGUE, el protocolo 176/176/2011, los datos fueron recolectados a través de entrevistas semi-estructuradas y analizados por estadística univariante y descriptiva. Resultados: la muestra de 35 pacientes, la mayoría reportó algún tipo de dolor óseo. Así, las piernas y la columna vertebral son los lugares más mencionados. Conclusión: el dolor experimentado por los pacientes con impacto negativo CKD-MBD en la calidad de vida y la vida cotidiana de estas personas, y que la intensidad del dolor que se siente se suaviza mediante la aplicación de compresas frías, analgésicos, antiinflamatorios y reposo. Descriptores: Insuficiencia Renal Crónica; Osteodistrofia Renal; Dor; Enfermagem.

RESUMEN
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INTRODUCTION

The kidneys are organs that are capable of regulating systemic excretion and body, they assume the function of balancing the volume of intracellular and extracellular fluids, regulating electrolyte balance and acid-base, excrete and metabolize multiple endogenous and exogenous substances, and produce and secrete hormones essential for maintaining the smooth functioning of the human organism.  

The state of renal dysfunction can be classified into acute and chronic, with the latter settles insidious, progressive and irreversible, commonly due to pathological processes such as hypertension and diabetes, understood as a complex syndrome.  

The concept of Chronic Kidney Disease (CKD) is based on the assessment of the functional capacity of the kidneys by the association of the measure of glomerular filtration rate (GFR) and renal parenchymal injury in a period not exceeding three months, classifying CKD stages ranging from a (kidney damage with normal or increased GFR) to five (Bankruptcy renal functional whether or not on renal replacement therapy).  

Chronic kidney disease is caused often easy to diagnose diseases and high prevalence, and thus, it is imperative that CKD diagnosed early, given the insidious onset, progressive and irreversible, in order to prevent rapid installation more severe stages, and therefore with lower therapeutic possibilities.  

CKD affects more people in the world and currently is considered a serious public health problem, with a progressive prevalence in all regions of Brazil.  

Chronic kidney disease can have serious implications bio-psychosocial afflicted individuals, given the complex relationship established between the kidneys and the functioning of the human body, making the possibility of pressing CKD commit different organ systems such as respiratory, circulatory, hematologic and bone.  

Among the complications caused by the DRC, the bone can be considered to greatly affect the life of patients, given its characteristic debilitating and incapacitating, requiring health professionals, attention to all components inherent to bone problems of chronic kidney disease.  

The Mineral and Bone Disorder of Chronic Kidney Disease (CKD-MBD) is defined as the systemic changes in bone and mineral metabolism, related to homeostasis of calcium, phosphorus, parathyroid hormone and calcitriol in chronic renal failure, resulting in changes of remodeling, mineralization, volume growth and bone strength, source of recurring pain, may cause negative impact on quality of life until death of affected patients.  

Commonly, the CKD-MBD presents asymptomatically in their early evolution, considered to be a negative factor of the disease, because symptoms such as severe bone pain are only perceived after the worsening of the disease process, a fact that undermines the reversal of the clinical condition and in greatly when other variables are associated to age, etiology of bone lesions and the time for dialysis.  

There are numerous osteo-articular abnormalities developed during chronic kidney disease. However, it is necessary to identify the clinical manifestations, so that the pipes are more effective in trying to minimize the bone, and thus improve the functional capacity and, consequently, the quality of life of people affected.  

The pain of CKD-MBD is often present in the lives of patients with chronic renal failure, and given the terminally nephropathy, painful sensations to be glimpsed by nurses as slur deleterious effects that induce the implementation of palliative care in order to minimize damage caused.  

The motivation for performing this study is justified by theme represent a serious public health problem, which has been growing dramatically, strengthened by the fact that the studies involving the pain of patients affected by CKD-MBD are ignorant.In order to answer the question, we draw the following objectives:  

- To evaluate the intensity and distribution of pain perceived by patients affected by CKD-MBD, from the use of specific scale of pain assessment;  
- To describe the impact of CKD-MBD imposes on the daily activities of the people affected by the disease;  
- To ascertain what actions implemented by patients to minimize or cease the sensations felt painful.  

In order to meet the proposed objectives, we developed the following question: What is the intensity and distribution of bone pain perceived by patients affected by CKD-MBD?  

METHOD

This is a descriptive study with a quantitative approach, performed in Nephron Clinical LTDA, located in Natal-RN. The study site was chosen because it is a private clinic
Evaluation of bone pain in patients contracted the Unified Health System (SUS) and Municipal Health Bureau, as a reference state in dialysis, besides being an excellent field for scientific research.

The study was carried out respecting the ethical premises and legal resolution 196/96, which governs human research and was approved by the Ethics Committee of the Northern League-Rio gradense Against Cancer, under protocol nº 176/176 / 2011 in addition to the consent of the Nephron Clinic for the study and consent of patients through signing the consent form.

Data collection took place through individual interviews held in a room provided by the clinic, with patients identified through the book of records of dialysis, those being selected which framed to the inclusion criteria of the study: 1. To be Carrier chronic renal failure; 2. Those undergoing hemodialysis in Nephron Clinical; 3. affected by CKD-MBD, characterized by elevated PTH level and presenting diagnosis confirmed by medical report; 5. Patients without communication barriers that the cripple to answer the questionnaire.

The instrument used was a semi-structured questionnaire, which revealed the information about the demographic patterns of patients, including dialysis treatment time and its comorbidities and pain assessment in which we used the Brief Pain Inventory, the scales in predetermined interval, where 0 is no pain and 10 unbearable pain. It was established pain interference in the ability to perform daily activities and in the lifestyle of patients.

Data were pooled and processed into tables of Microsoft Excel® and SPSS software version 17.0 (temporary version). Data were analyzed using descriptive statistics for demographic information, while for pain assessment used univariate statistical, with respective frequencies and averages of the variables.

All material collected will be filed in paper format during the period of five years from the date of completion of data analysis, in the room of the Coordination of the nursing program at the College ESTÁCIO-FATERN in Natal-RN, under the responsibility of researchers and teaching institution, guaranteeing the confidentiality of the information contained in the interviews.

RESULTS

The sample consisted of 35 patients that met the inclusion criteria of the study, of these, 19 men (54.29%) and 16 women (45.71%). The age group with the highest prevalence was seen among individuals above 50 years of age (62.86%), followed by 36-50 years (17.14%), 26-35 years (14.29%) and 18-25 year (5.71%). Among the respondents, 68.57% are retired, self-employed 14.29%, 11.43% students and the unemployed, while 5.71% chose not to reveal their occupations.

Regarding the duration of dialysis, 18 respondents (51.43%) undergoing hemodialysis for more than five years, 08 (22.86%) treat yourself to a maximum of one year, 05 (14.29%) dialyzed there is one and three years, while 04 (11.43%) for three to five years.

The majority of the participants in the sample, 25 patients (71.43%), due developedDRC Hypertension (HBP), 09 respondents (25.71%) for diabetes, while the minority for urinary tract infections.

When asked about the daily presence of some kind of pain, 27 patients (77.14%) answered yes, of these, 24 (88.89%) correlated the onset of pain with the onset of the hemodialysis.

Regarding the location of the pain, there was a frequency: 15 reports (42.86%) of leg pain, 12 (34.29%) in the lumbar spine, 09 (25.71%), forearms, 08 (22, 86%) in the shoulders, elbows and abdomen, 05 (14.29%) in the hands, wrists, neck, pelvis and feet, while 01 (2.86%) in the buttocks.

As the average intensity of pain was observed frequencies: 13 reports (37.14%) of unbearable pain, 10 (28.57%) severe, 07 (20%) and missing 05 (14.29%) moderate.

When crossing the frequencies of pain intensity variables: gender, age, duration of dialysis treatment and pain relief, it was observed that women feel more pain to unbearable intensity (37.50%), and less frequently the absence algic (12.50%), while men reported more unbearable pain (36.84%) and less frequently the moderate (10.53%).

The unbearable pain intensity were most frequently reported by patients aged 18 to 25 (50%) and those over 50 years old (45.45%), while respondents aged between 26 and 35 years old reported a percentage equal to all types of pain (33.33%), except for the moderate-intensity not often presented.

Patients with 1-3 years of hemodialysis reported more unbearable pain, while those with 3-5 years of treatment said, mostly, no pain, followed by moderate pain and unbearable. Respondents with more than 5 years of hemodialysis reported feeling severe pain mostly.
Table 1. Percentage for the crossing of the intensity of the pain by gender, age, time of dialysis and pain relief, Natal, RN. 2012.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>18 - 25 years</th>
<th>26 - 35 years</th>
<th>36 - 50 years</th>
<th>Over 50 years</th>
<th>Intensity of the pain</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absent</td>
<td>12,50%</td>
<td>0,00%</td>
<td>40,00%</td>
<td>33,33%</td>
<td>13,64%</td>
<td>Male</td>
<td>18,22%</td>
</tr>
<tr>
<td>Female</td>
<td>12,50%</td>
<td>0,00%</td>
<td>40,00%</td>
<td>33,33%</td>
<td>13,64%</td>
<td>Female</td>
<td>18,22%</td>
</tr>
<tr>
<td>1 - 3 years</td>
<td>12,50%</td>
<td>0,00%</td>
<td>50,00%</td>
<td>22,22%</td>
<td>22,22%</td>
<td>Male</td>
<td>13,64%</td>
</tr>
<tr>
<td>3 - 5 years</td>
<td>50,00%</td>
<td>0,00%</td>
<td>33,33%</td>
<td>22,22%</td>
<td>22,22%</td>
<td>Female</td>
<td>13,64%</td>
</tr>
<tr>
<td>Over 5 years</td>
<td>22,22%</td>
<td>0,00%</td>
<td>33,33%</td>
<td>22,22%</td>
<td>22,22%</td>
<td>Male</td>
<td>13,64%</td>
</tr>
<tr>
<td>The relief scale</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>Male</td>
<td>0,00%</td>
</tr>
<tr>
<td>Quick relief</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>Male</td>
<td>0,00%</td>
</tr>
<tr>
<td>Little relief</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>Male</td>
<td>0,00%</td>
</tr>
<tr>
<td>Very relieved</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>Male</td>
<td>0,00%</td>
</tr>
<tr>
<td>Totally relieved</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>0,00%</td>
<td>Male</td>
<td>0,00%</td>
</tr>
</tbody>
</table>

Participants were asked about the actions taken to minimize the pain felt, and observed the following frequencies: 07 respondents (25.93%) reported pain relief using cold compress on the aligic source; 06 reports (22.22%) with the rest, 10 (39.29%) made use of anti-inflammatory, 02 (7.40%) taking anxiolytics; 07 (25.93%) make use of anti-inflammatories, 02 (7.40%) taking anxiolytics and 01 (3.70%) uses warm compress on site. Most respondents reported that the pain totally interfere in employment and housework (57.14%), the ability to walk (53.57%), sleep and rest (46.43%), mood (39.29%) , life satisfaction (32.14%), and relationships with other people (25%). In our study sample showed that 21 respondents (60.00%) did not show skeletal deformities, while 14 (40.00%) present. On a more cautious, we believe that the numbers are not positive, given that the minority of respondents (35.71%) reported that the pain associated with bone deformities do not interfere with lifestyle, while the majority (64.29%) refers to interference, especially in the daily routine (21.43%), mobility (14.29%), labor (14.29%), interpersonal relationships (7.14%) and in all activities (7.14 %).

DISCUSSION

Most participants dialyzed over five years and were affected by the DRC as a result of the complications of hypertension, diabetes and urinary tract infections. In Brazil, SH is considered one of the main comorbidities causing problems renal. Other studies show hypertensive nephrosclerosis as the main cause of CKD, accompanied by glomerulonephritis and diabetes mellitus.

The patient with CKD on hemodialysis lives daily with the treatment lasting and painful, exposing the evolution of chronic disease and its complications, causing them loss of autonomy and negative impact on quality of life of the affected individual and his group family.

Often, patients suffering with chronic pain using multiple strategies in search of pain relief, however, each chosen treatment, individuals evaluate the possibility to modify and optimize the interruption of the painful process, choosing therapeutic options simultaneously.

The strategies implemented to relieve chronic pain condition should converge to palliative care, to offer relief, well-being and quality of life, constantly evaluating the results achieved.

The search for therapeutic modalities varied sets the longing for the painful sensation ceases, though, the pain presented by patients with CKD-MBD are chronic, thus, the relief is momentary and recurrent. Respondents reported using cold compresses, analgesics and anti-inflammatory, and home to minimize the feeling of bone pain, strategies that can be implemented easily by patients and their families, thus, the nurse should use these tools to optimize care. The disease became evident that chronic kidney and complications of hemodialysis affect the functional abilities of patients, limiting their daily activities, given the bone alterations are debilitating and disabling, especially when in the presence of deformities in the bones.

Our study showed a prevalence of 40% of patients affected by CKD-MBD that have bone deformities, a finding that corroborates studies.12-13

English/Portuguese
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The survey allowed us to characterize patients with chronic renal failure, affected by CKD-MBD. There was a vulnerable sample for worsening of bone homeostasis, given the advanced age and prolonged dialysis of respondents, highlighting the need for greater monitoring by the multidisciplinary team.

Bone pain in CRF patients translates into physical limitations that impair the performance of daily activities, adversely impacting the quality of life of these patients, revealing the need for nurses invest their efforts on patient autonomy and self-care.

Respondents reported using cold compresses, analgesics and anti-inflammatory to relieve bone pain felt, actions that showed good results. Given the positives, we believe favorable behaviors are characterized to be implemented by nurses, however, emphasize the need for a prescription to administer such drugs.

REFERENCES


from:


Evaluation of bone pain in patients...
Silva FS, Pinheiro MSF, França RC de et al.

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