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## RESEARCH

Cuidados paliativos para dor originada da doença mineral óssea da insuficiência renal crônica

Palliative care for pain originated from the bone mineral disease of chronic renal failure

Los cuidados paliativos para el dolor proveniente de la enfermedad ósea en la insuficiencia renal crónica

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### ABSTRACT

**Objective:** Identifying which effective palliative cares to the minimization of pain are used in household level by patients with Mineral and bone Disease of Chronic Kidney Disease. **Method:** a descriptive research, of cross-sectional and quantitative approach and held in a hemodialysis clinic in the city of Natal, Rio Grande do Norte. The data collection occurred from December 2011 to January 2012, using a semi-structured questionnaire with 35 patients. **Results:** the patients had painful process damaging the quality of life and mostly used at home oral analgesics and anti-inflammatories, cold compress and resting place. **Conclusion:** due to the good efficiency of non-medicated palliative care, we propose, in this study, the use of rest and cold compresses as a choice of primary care, relegating to conduct drug as secondary or supporting options. **Descriptors:** Palliative care, Chronic renal failure, Renal osteodystrophy, Nursing.

### RESUMO

**Objetivo:** Identificar quais os cuidados paliativos que são eficazes à minimização da dor que são utilizados, em nível domiciliar, por pacientes portadores de Doença Mineral e Óssea da Doença Renal Crônica. **Método:** Pesquisa descritiva, de abordagem quantitativa e transversal, realizada em uma clínica de hemodiálise na cidade de Natal-RN. A coleta de dados ocorreu de dezembro de 2011 a janeiro de 2012, utilizando um questionário semiestruturado com 35 pacientes. **Resultados:** Os pacientes apresentaram processo doloroso prejudicial à qualidade de vida e, em maioria, utilizam em domicílio medicações analgésicas e anti-inflamatórias orais, compressa fria local e repouso. **Conclusão:** Devido à boa eficiência dos cuidados paliativos não medicamentosos, propomos, nestes estudos, a utilização do repouso e compressas frias como escolha de cuidado primário, relegando às condutas medicamentosas como opções secundárias ou coadjuvantes. **Descritores:** Cuidados paliativos, Insuficiência renal crônica, Osteodistrofia renal, Enfermagem.

### RESUMEN

**Objetivo:** Determinar cuales los cuidados paliativos que son eficaces para reducir al mínimo el dolor que se utilizan en domicilio, por los pacientes con enfermedades óseas e minerales de la Enfermedad Renal Crónica. **Método:** Una investigación descriptiva, con enfoque cuantitativo y transversal, realizada en una clínica de hemodiálisis en la ciudad de Natal, Río Grande do Norte. Los datos fueron recolectados a partir de diciembre de 2011 hasta enero de 2012, mediante un cuestionario semi-estructurado con 35 pacientes. **Resultados:** Los pacientes presentaron un doloroso proceso dañoso a la calidad de vida y se utilizan, principalmente, en casa analgésicos orales y antiinflamatorios, compresas frías y descanso. **Conclusión:** Debido a la gran eficacia de los cuidados paliativos no medicamentosos, se propone, en este estudio, el uso de descanso y compresas frías para elegir la atención primaria, relegando a cabo las drogas como opciones secundarias o de apoyo. **Descriptor:** Cuidados paliativos, Insuficiencia renal crónica, La osteodistrofia renal, Enfermería.

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## INTRODUCTION

**A**mong the complications caused by Chronic Kidney Disease (CKD), there are considered the bone that reduces the quality of life of the affected, because of their disabling potential.<sup>1-2</sup>

The Mineral and Bone Disorder (CKD-MBD) of Chronic Kidney Disease is defined as the systemic changes in bone and mineral metabolism, related to homeostasis of calcium, phosphorus, calcitriol and parathyroid hormone (PTH) in chronic renal failure, causing changes of remodeling, mineralization, volume, growth and bone strength.<sup>1</sup>

The pain of CKD-MBD is often present in the lives of patients with renal disease. Given the terminally nephropathy, painful feelings should be understood by nurses as chronic injury factors, with deleterious effects requiring implementation of palliative care in order to minimize the suffering caused.<sup>3</sup>

Palliative care is the basis of patient care suffering from terminal illnesses, in order to promote the assessment, treatment and prevention of problems generated in the spiritual, psychosocial and physical context, with special attention to chronic pain.<sup>4-5</sup>

The assumptions of palliative care are not part of efforts to cure or control diseases; hence, this approach aims to add quality of life to suffering from debilitating and disabling symptoms arising from chronic diseases, promoting comfort and well-being by optimizing the ability to care.<sup>6-7</sup>

When it comes to palliative care, care act gets a new meaning and becomes part of the daily practice of nursing and co-responsibility of the family in this process, establishing a relationship to watch the other fully, with recognition of the physical, spiritual values and cultural pain, and promote closer ties between the patient, carers and multidisciplinary team.<sup>4-5,7</sup>

The pain of CKD-MBD is of the terminally common chronic disease, leading patients and families to seek palliative behaviors that go beyond medical and nursing requirements, aiming to minimize the pain felt. However, the development of such care is not a rule.

Nurses working with palliative care should pursue strategies to mitigate or remedy the pain, with realization of pain evaluation, guidance and implementation of analgesic therapies and subsequent analysis of efficacy of therapeutic implemented. It is known that the supporting means of pain relief are not exclusively medicated and that there are options used by individual patients and do not always fall within the scope of general care for pain.<sup>8</sup>

Before the exposed context, it is necessary that nurses use a fundamental tool to holistic care, the act of listening to their patients and families and thus, identify the best strategy to be used in the care of patients with CKD-MBD.

Given this reality, it was elaborated the following question: What are the palliative cares used by patients to minimize the resulting bone pain of CKD-MBD?

Thus, the objective was to identify the effective minimization of pain used in home care for patients with CKD-MBD palliative care.

The motivation for performing this study is justified by being chronic kidney disease is a growing public health problem and its generating complications of intense suffering, strengthened by the fact that studies involving palliative care and pain of patients affected by CKD-MBD are incipient.

## METHOD

This is a descriptive research, non-experimental, cross-sectional, of a quantitative research, performed in a hemodialysis clinic, located in Natal-RN. The research site was chosen because it is a private clinic, convening at the Unified Health System (SUS) and Municipal Health Department, becoming a statewide referral in chronic dialysis.

A convenience sample consisting of 35 individuals selected through the individual records in patient charts, subsequently submitted to the study inclusion criteria: be patient with chronic renal failure, hemodialysis perform selected as the study site clinic; affected by CKD-MBD, characterized by high level of PTH and presenting diagnosis confirmed by pathology report, and patients who use palliative therapeutic approaches for bone pain at the household level. There were excluded from the study patients with communication barriers that prevent to respond to the questionnaire and those who did not wish to participate voluntarily in the study.

The data collection occurred from December 2011 to January 2012, through semi-structured interviews carried out individually in a room provided by the clinic. Each patient was interviewed by two researchers, and in most cases, respondents were accompanied by a relative or caregiver.

The semi-structured questionnaire contained the favorable social and demographic patterns of patients, including dialysis treatment time and its comorbidities issues.

To assess pain used the brief pain inventory, which performs the painful scaling via pre-set interval, where zero is no pain and 10, unbearable pain. Interference of pain in the ability to perform daily activities and lifestyle of patients was established beyond question about which conducts palliative patients use to minimize felt bone pain.

The data were pooled and processed in electronic tables. The analysis was made by descriptive statistics for socio-demographic information, as to the assessment of pain and palliative care; we used univariate statistics, with their frequencies and means of the variables.

The study was carried out respecting the ethical and legal assumptions of Resolution 196/96, which had hitherto governed the research involving human subjects and was approved by the Ethics Committee in Research of the Northern League Riograndense Against Cancer, under protocol nº 176/176/2011, in addition to the consent of hemodialysis clinic to conduct the study and patient consent by signing the consent form.

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 nursing at the College FATERN-Estácio de Sá, in Natal-RN, in the responsibility of researchers and teaching institution, guaranteeing the confidentiality of the information contained in the interviews.

## RESULTS AND DISCUSSION

The sample was comprised of 35 patients, of whom 19 were men (54,29%). The age group with the highest rate was among people over 50 years old (62,86%), followed by 36-50 (17,14%), 26-35 (14,29%) and 18-25 years old (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.

As to the duration of dialysis, 18 respondents (51,43%) were undergoing hemodialysis for more than five years, 08 (22,86%) treat themselves at most a year ago, 05 (14,29%) have dialysis time from one to three years, while 04 (11,43%) for about three to five years.

Most participants in the sample, 25 patients (71,43%) developed CKD dueto Hypertension (HBP), 09 respondents (25,71%) by diabetes, while one respondent (2,86%) for infections urinary tract.

When asked about the everyday 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 of 15 reports (42,86%) of leg pain, 12 (34,29%) at the lumbar spine, 09 (25,71%) in the 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.

How much the average intensity of pain was observed frequencies: 13 reports (37,14%) of unbearable pain, 10 (28,57%) severe, 07 (20%) and 05 (14,29%) moderate.

When crossing the frequencies of pain intensity the variables of gender, age and duration of dialysis treatment, 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 those of moderate intensity (10,53%).

The unbearable pain intensity were reported by more patients aged 18 to 25 (50%) and those over 50 years (45,45%), while respondents aged 26 to 35 years reported a percentage equal to all types of pain (33,33%), except that the moderate intensity showed no frequency.

Patients with 1-3 years of hemodialysis treatment reported more unbearable pain, while those with 3-5 years of treatment said, mostly, lack of pain, followed by moderate to unbearable pain. Respondents with more than 5 years of hemodialysis reported feeling severe pain in most cases.

The data concerning the association of gender, age and length of dialysis treatment with variable intensity of pain are shown in Table 1.

**Table 1-** Percentagereferringto the crossingof the intensityof painwithgender, ageand length of treatment variables, Natal, RN.2012.

Variables		Painintensity				Total
		Absent	Moderated	Severe	Unbearable	
<b>Gender</b>	Female	12,50%	18,75%	31,25%	37,50%	100,00%
	Male	26,32%	10,53%	26,32%	36,84%	100,00%
<b>Age</b>	18 - 25	0,00%	50,00%	0,00%	50,00%	100,00%
	26 - 35	40,00%	40,00%	20,00%	0,00%	100,00%
	36 - 50	33,33%	0,00%	33,33%	33,33%	100,00%
	> 50	13,64%	9,09%	31,82%	45,45%	100,00%
<b>Dialysistreatment time</b>	Until1yearold	12,50%	25,00%	25,00%	37,50%	100,00%
	1 - 3yearsold	0,00%	20,00%	0,00%	80,00%	100,00%
	3 - 5	50,00%	25,00%	0,00%	25,00%	100,00%
	> 5 yearsold	22,22%	5,56%	44,44%	27,78%	100,00%

Most respondents reported that pain interferes fully in employment and domestic work (57,14%), the ability to walk (53,57%), sleep and rest (46,43%), cheer(39,29%) , life satisfaction (32,14%), and relationship with other people (25%).

It was observed that 21 respondents (60,00%) did not have skeletal deformities while 14 (40,00%) present in the hands, knees and face. A cautious outlook, it is understood 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 %).

Participants were asked about the actions taken to minimize the pain felt, and observed the following frequencies: 10 (28,57%) used analgesics; 07 (20%) make use of anti-inflammatory drugs, 07 respondents (20%) reported pain relief using cold compress on algic source; 06 reports (17,14%) with the rest, 02 (5,71%) massage comfort; 02 (5,71%) taking anxiolytics and 01 (2,85%) use warm compress on site.

Respondents were asked about the minimization of bone pain, having pain relief classified according to duration of analgesia after the implementation of palliative care, in a 24 hour period: 1. A little relief (no pain the lower part of the day); 2. Much relief (pain free most of the day) and 3.Total relief (no pain during the day).

Table 2 shows the relationship between the hospice and the variable rating of pain relief.

**Tabela 1** - Number of individuals regarding the crossing type of palliative care, with the classification of the relief of bone pain, Natal, RN. 2012.

Palliative Care	Classification of pain relief		
	Little relief	Much relief	Total relief
Painkillers	01	03	06
Anti-inflammatories	00	05	02
Cold compress	01	03	03
Rest	00	02	04
Comfort massage	00	02	00
Anti-anxiety Drugs	00	01	01
Warm compress	01	00	00

The socio-demographic profile of individuals with CKD-MBD points to the predominance of the disease in male patients, aged over 50 years old, and mostly composed of retired.<sup>9-10</sup> This reality is consistent with that shown by the study sample.

Most participants dialyzed over five years and were affected by CKD, as a result of complications of hypertension, diabetes and urinary tract infections. In Brazil, hypertension is considered one of the main comorbidities of causing kidney problems.<sup>10-2</sup>

With respect to pain, most respondents reported leg pain, lumbar spine and forearms, which may result in injury to the mobility. This finding is strengthened by the fact that the unbearable pain type is present in high frequency in both genders.

Pain is a frequent complaint in patients affected by CKD and when it is not treated properly can lead to complications caused by the dosage of analgesic drugs and increased risk of adverse effects with the drug kidney injury.<sup>13</sup>

A high number of patients interviewed use analgesics and anti-inflammatory drugs for pain relief; however, it was not reported nephrotoxicity of these drugs. It is noteworthy that there were no reports of self-medication and therefore one starts from the assumption that the prescription of these drugs underwent medical evaluation and it is inferred that the preservation of residual renal function was considered.

Patients who suffer from chronic pain using multiple strategies in pursuit of the painful relief, however, each treatment chosen, individuals evaluate the possibility to modify and optimize the interruption of pain process, electing simultaneous therapeutic options.<sup>14</sup>

There was not considered the possibility of patients associating more than one form of palliative care, given the difficulty of respondents to report more accurately the time, frequency and type of care chosen, which would hurt greatly in the reliability of the data collected. Thus, the isolated analysis of each type of palliative care was purposeful.

This study showed that the use of analgesics, anti-inflammatories, cold compresses and rest showed up with the most effective palliative care for the patients interviewed, however, alert to the continued use of anti-inflammatory and analgesic medications for long periods, since that these drugs may act as kidney injury factor to cause nephrotoxicity.<sup>15</sup>

Given the demonstrated frequency, the types of palliative care in relation to its effectiveness, it appears that the home has 66.66% of the total relief within 24 hours;

analgesics with 60%, 50% and anxiolytic cold compress with 42,86% of the sample. This pain in patients with CKD-MBD interferes with the performance of daily activities and rest, cold compresses and analgesics contribute to reduce pain.<sup>16</sup> A high number of patients reported that they used anti-inflammatory drugs, this study showed that 19% of "total relief" of pain within 24 hours, however, ponder its use, given its nephrotoxicity and their relative effectiveness when compared to other approaches.

This study presented as a limiting factor the number of the sample, considered small to propose the implementation of mitigation behaviors, Thus, it is believed that the purpose of this research requires deepening.

The results presented departed subjective data, such as the decrease in pain measurement, and therefore subject to bias. However, it is the self-reported experiences of patients by implementing, in home care, palliative care for relief of their pain, which in its multifactorial condition is a single variable and feeling.

## CONCLUSION

We found that the bone pain of CKD-MBD results negatively on the lives of affected patients, causing them losses those interfere in daily life.

In this study it was observed that the patients interviewed make use, in home care, of palliative therapeutic strategies that go beyond medical and nursing requirements. Among the most used, rest, analgesics, anti-inflammatory, anxiolytic and cold compresses, showed more effective.

Due to the good efficiency of non-medicated palliative care, these studies suggest the use of rest and cold compresses as a choice of primary care, relegating to drug conducts as secondary options or supporting.

## REFERENCES

1. Carvalho AB, Gueiros APS, Gueiros JEB, Neves CL, Karohl C, Samaio E. Adendo das diretrizes brasileiras de prática clínica para o distúrbio mineral e ósseo na doença renal crônica capítulo 2. *J Bras Nefrol*. 2012;34(2):199-205.
2. Frota OP, Borges NMA. Hemodialysis treatment-related chronic complications in hypertensive people: integrative review. *RevPesqCuid Fundam*[periódico online].

- 2013[acessoem 2013 Jul 10];5(2):3828-36. Disponível em:[http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/2098/pdf\\_770](http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/2098/pdf_770)
3. González JS, Ruiz MCS. Historia cultural de los cuidados paliativos en las sociedades primitivas: revisión integrativa. *RevEscEnferm USP*[periódico online]. 2012 [acessoem 2013 Mar 10];46(4):1015-22. Disponível em: <http://www.scielo.br/pdf/reeusp/v46n4/33.pdf>
  4. Silva AE, Guimarães EAA. Cuidados paliativos de enfermagem: perspectivas para técnicos e auxiliares. *RevEnfermCent O Min* [periódico online]. 2012 [acesso em 2013 Mar 10];2(3):376-93. Disponível em: <http://seer.ufsj.edu.br/index.php/recom/article/view/256/352>
  5. Lehmkuhl A, Maia AJM, Machado MOM. Estudo da Prevalência de Óbitos de Pacientes com Doença Renal Crônica Associada à Doença Mineral Óssea. *J BrasNefrol*.2009;31(1):10-7.
  6. Santana JCB, Paula KF, Campos ACV, Rezende MAE, Barbosa BDG, Dutra BS, et al. Cuidados paliativos aos pacientes terminais: percepção da equipe de enfermagem. *Rev Bioethikos*. 2009;3(1):77-86.
  7. Tamura MK, Cohen LM. Should there be an expanded role for palliative care in end-stage renal disease?. *CurrOpinNephrolHypertens*. 2010;19(6):556-60.
  8. Waterkemper R, Reibnitz KS. Cuidados paliativos: a avaliação da dor na percepção de enfermeiras. *Rev Gaúcha Enferm*. 2010;31(1):84-91.
  9. Sampaio RMM, Coelho MO, Pinto FJM, Osteme EPR. Perfil epidemiológico de pacientes nefropatas e as dificuldades no acesso ao tratamento. *RevBrasPromoç Saúde*. 2013;26(1):95-101.
  10. Mascarenhas CHM, Reis LA, Lyra JE, Peixoto AV, Teles MS. Insuficiência renal crônica: caracterização sociodemográfica e de saúde de pacientes em tratamento hemodialítico no município de Jequié/BA. *RevEspac Saúde*. [periódico online]. 2010 [citado em 2013 Abr 13];12(1):30-7. Disponível em: <http://www.uel.br/revistas/uel/index.php/espacoparasaude/article/view/9234/pdf>
  11. Bastos MG, Bregman R, Kirsztajn GM. Doença renal crônica: frequente e grave, mas também prevenível e tratável. *Rev Assoc Med Bras*. 2010;56(2):248-53.
  12. Silva DB, Souza TA, Santos CM, Jucá MM, Moreira TMM, Frota MA, et al. Associação entre hipertensão arterial e diabetes em centro de saúde da família. *Rev Bras PromoçSaúde*. 2011;24(1):16-23.
  13. Golan E, Haggiag I, Os P, Bernheim J. Calcium, Parathyroid Hormone, and Vitamin D: Major Determinants of Chronic Pain in Hemodialysis Patients. *Clin JAm Soc Nephrol*. 2009;4:1374-80.
  14. Queiroz MF, Barbosa MH, Lemos RCA, RibeiroSBF, RibeiroJB, Andrade EV, et al. Qualidade de vida de portadores de dor crônica atendidos em clínica multiprofissional. *RevEnfermAten Saúde*. [Periódico online]. 2012 [acessoem 2013 Ago 10];1(1):30-43. Disponível:<http://www.uftm.edu.br/revistaeletronica/index.php/enfer/article/view/309/277>
  15. Li PKT, Burdmann EA, Mehta RL. Injúria renal aguda: um alerta global. *J BrasNefrol*. 2013;35(1):1-5.
  16. Silva FS, Pinheiro MSF, França RC, Mendonça AEO, Simpson CA, Leite EMD. Evaluation of bone pain in patients with renal chronic with mineral disorder. *Revenferm UFPE*



online[Periódico online]. 2013 [acessoem 2013 Ago 22];7(5):1406-11. Disponível: [http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/4381/pdf\\_2537](http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/4381/pdf_2537)



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