Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol. 5 No. 9 (2024): September 2024 Issue
https://doi.org/10.51168/sjhrafrica.v5i9.1230
Original Article

PAIN MANAGEMENT OF PATIENTS WITH CHRONIC RENAL FAILURE: A CASE STUDY OF PATIENTS IN A PRIVATE RENAL FACILITY IN KWAZULU-NATAL.

Shamanie Govender[1*], Karishma Singh[2], Roger Coopoosamy[2], Jamila Kathoon Adam[1]
[1]Faculty of Health Science, Durban University of Technology, P.O. Box 1334, Durban, 4000, South Africa
[2]Faculty of Natural Sciences, Mangosuthu University of Technology, P.O. Box 12363, Jacobs, 4026, Durban, KwaZulu-Natal, South Africa

ABSTRACT

Background
Pain management in chronic kidney disease patients is extremely complicated. An estimated 82% of patients with chronic kidney disease have moderate to severe pain. The purpose of this study was to investigate the types, frequency, and severity of pain experienced by patients with chronic kidney disease, as well as to suggest strategies that patients and staff could use to manage the patient's pain.

Methods
At the Durban Kidney and Dialysis Centre, 60 patients were given questionnaires to assess their level of pain severity and management control. The participants were subjected to inclusion and exclusion criteria. The patient's medical records were examined. The research was carried out between September 2017 and March 2018. For analysis, relevant statistical methods were used. Patients were all on hemodialysis and averaged 57 years old.

Results
According to the findings of this study, most patients reported pain symptoms during dialysis, and 72.3% of the pain experienced was moderate to severe, indicating that pain is a major symptom burden in this patient population.

Conclusion
Both patients and staff would benefit from learning about different types of pain management therapies (both pharmacological and non-pharmacological), as well as the long-term consequences of pain going undiagnosed and untreated.

Recommendations
The results show that pain is a major symptom burden but the use of analgesics is under-prescribed. Pain management, interventions, and strategies should be a research priority because pain is a valid and considerable health concern in the increasing CKD patient population.

Keywords: *Kidney disease, dialysis, renal pain, hemodialysis. Nephrology*
Submitted: *2024-06-21* ***Accepted:*** *2024-07-26*

Corresponding author: *Shamanie Govender**
Email: *ShamanieG@dut.ac.za*
Faculty of Health Science, Durban University of Technology, P.O. Box 1334, Durban, 4000, South Africa.

INTRODUCTION

Pain is both a sensory and an emotional sensation (The British Pain Society (TBPS), 2013). The emotional component varies from person to person and even within the same person. This fact must be considered in pain management (TBPS, 2013; Idrissi, 2020). Acute pain that is not relieved can lead to chronic pain, and chronic pain can lead to anatomical and even genetic changes in the nervous system (TBPS, 2013; Idrissi, 2020). Chronic pain is defined as pain that lasts more than a month after the usual course of an acute disease or a reasonable time for an injury to heal or is associated with a chronic pathological process that causes continuous pain, or pain that recurs at regular intervals for months or years (TBPS, 2013). At least 82% of patients with chronic kidney disease (CKD) report pain of moderate to severe intensity (Davison, 2006). Despite this high prevalence, a growing body of literature indicates that pain in the CKD population is under-recognized and undertreated (Davison, 2007; Weisbord et al., 2005).

Pain can be caused by a variety of factors, including the kidney disease itself, dialysis procedures, or diabetic neuropathy (Harris et al., 2012; Curtin et al., 2002). Pain has consistently been shown to impact health-related quality of life negatively (Barakzoy and Moss, 2006;

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol. 5 No. 9 (2024): September 2024 Issue
https://doi.org/10.51168/sjhrafrica.v5i9.1230
Original Article

Koncicki et al., 2015). Pain also causes other symptoms such as depression, cramps, aching bones, and headaches, as well as sleep disturbances and may harm dialysis treatment, such as non-compliance (Danquah, 2009; Davison et al., 2014; Brkovic et al., 2016).

First and foremost, pain is suffering, and it is our responsibility to alleviate suffering. This is true whether the pain is acute or chronic, but understandably, the longer the suffering, the greater the need (TBPS, 2013). Pain management in CKD patients is extremely complicated due to the razor-thin line between pain relief and toxicity. In addition, the patients' concomitant health problems may influence the type of analgesia given (Williams and Manias, 2007). Furthermore, pain relief may be ineffective if the analgesia is easily removed with dialysis (Castro et al., 2013). Most chronic pain patients respond in some way to any new treatment modality that is introduced. This could be due to the placebo effect, as well as a reduction in the emotional component of pain (Idrissi, 2020). Therefore, keep in mind that the success of a treatment regimen can only be determined if the positive response lasts long enough at least three weeks. And the evaluation should consider the quality of life as well as pain (TBPS, 2013; Idrissi, 2020). Pain management is highly complex in patients with CKD because there is a very narrow margin between pain relief and toxicity (Idrissi, 2020). Opioids are our most potent analgesics for pain relief. Opioids can build up in the body and cause side effects like respiratory distress, sedation, and myoclonus (Davison, 2003; Kurella et al., 2003). Opioids are an effective treatment for a variety of intractable painful conditions, but global opioid access issues contribute to unnecessary suffering in pain management (Manjiani et al., 2014). Over the last decade, studies have shown that implementing the World Health Organization's (WHO) three-step analgesic ladder significantly reduces pain in CKD patients (Barakzoy and Moss, 2006; Kurella et al., 2003; Davison, 2005). Non-pharmacological pain management strategies, such as psychological and cognitive behavioral therapy, relaxation techniques, and spiritual counseling, should be recommended and supported by the renal professional team (Davison 2005; Santoro et al., 2013).

Pain management is not included in the Kidney Disease Outcomes Quality Initiative (K/DOQI) guidelines, so nephrologists and dialysis nursing staff are frequently unprepared to recognize and treat pain (Patel, 2013). With the growing number of CKD patients, it is becoming increasingly important to implement measures to identify, assess, and provide appropriate analgesia and non-pharmacological therapies to reduce pain and bring comfort to patients experiencing debilitating types of pain.
The professional renal team plays a crucial role in patient care. However, nephrologists and dialysis nursing staff are not adequately prepared to recognize and treat pain, primarily since pain management is not part of the K/DOQI guidelines (Patel, 2013). In most cases, the staff is only prepared to assist with pain relief if it pertains to the dialysis treatment itself and not pain that arises from co-morbidities such as cardiovascular pain. Furthermore, Davison et al. (2014), report that data on the exact causes and diagnosis of pain in CKD patients are lacking, which may hinder the development of targeted therapeutic interventions above general pharmacologic approaches to pain management.
With the growing number of CKD patients, it is becoming increasingly important to implement measures to identify, assess, and provide appropriate analgesia and non-pharmacological therapies to reduce and bring comfort to patients experiencing debilitating types of pain. Despite this, there has been no reported South African-based research to increase the knowledge of CKD-associated pain management from a patient's perspective. While pain often accompanies CKD, little is known of how decisions are made to manage pain in clinical practice and pain management has not been researched within a South African dialysis unit. Insufficient understanding and underassessment of pain, together with a lack of patient involvement in decision-making may lead to inadequate care provision (Manias and Williams).

The overall aim of this research was to look into the different types, frequency, and severity of pain experienced by CKD patients. Furthermore, specific objectives focused on how patients managed their distress and discomfort, as well as how the renal staff responded to pain experienced by patients in their care. A long-term goal of this study is to develop efficient and effective interventions and strategies to manage patient's pain and thereby provide a level of comfort and improve overall Health-Related Quality of Life (HRQoL) for patients with this debilitating disease.

MATERIALS AND METHODS

Research Question

- Are there sufficient support structures to enable patients to manage the pain and discomfort resulting from hemodialysis?
- Is the current practice suitable and effective to manage patient pain?

Risk aspects, vulnerability of the participants, and action plan for the issues:

- Risk aspects are the frequency of the dialysis sessions that are required due to patients' CKD, this cannot be amended due to the doctor's prescription and blood results of patients that justify the length and duration of the dialysis treatment

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol. 5 No. 9 (2024): September 2024 Issue
https://doi.org/10.51168/sjhrafrica.v5i9.1230
Original Article

- Patients are vulnerable, however, due to care provided by a multi-disciplinary team this is accounted for as patient care is advocated for.

Study design

A qualitative research approach was used because it was deemed appropriate for this study as the primary emphasis is on the subjective meaning of an experience communicated by the participants to the researcher. In this study, the pain experienced by the patient is subjective and they attach meaning to it, for example, if it is unbearable, they may consider limiting the duration of the dialysis session or withdrawing from the dialysis treatment altogether.

The study was designed to investigate the types, frequency, and severity of pain experienced by patients with CKD. It explored phenomena without any manipulation and control of human behavior. Therefore, the researchers were able to obtain a greater understanding of the patient's pain experience and its impact on their HRQoL. In addition, specific objectives focused on how the patients managed the distress and discomfort they experienced and how it reflected on their decision-making regarding the treatment of the pain experienced. The response of the renal staff to the pain experienced by patients in their care was also investigated. There is a paucity of information within South Africa on this topic; thus, an exploratory design was used to ask questions in a structured manner and seek new insights to grow the body of knowledge on this under-recognized problem. Moreover, the less developed an area is, the more likely exploration should be used to build a foundation of general ideas and to propose theories, for example, in this area of pain management of the patient with CKD (Babbie et al., 2001). Ultimately, strategies would be suggested to both the renal staff and the patient so that the patient would cope with the pain and achieve a bearable level of comfort. De Vos et al. (2002), state that descriptive research presents a picture of the specific details of a situation whereas exploratory studies seek to become familiar with the basic facts and create a generalized picture of prevailing conditions. Thus, this study was both exploratory and descriptive because the patient's account of their pain experience will add new insights and information to the area of renal care and clinical practice.

Study population and sampling

In this study, non-probability sampling was used because according to Babbie and Mouton (2001), the samples were handpicked, selecting those elements that are information-rich about the nature of the research problem and topic under investigation. This was an exploratory, descriptive study and thus non-probability sampling was used to identify, explore, and understand the pain experiences and barriers to effective pain management faced by the CKD patient population in this private renal facility.

The sample comprised sixty patients (as per the exclusion criteria outlined below and on recommendation from the statistician). Patients from both genders and all race groups were accepted to participate in this study. A total of 60 patients were interviewed at the bedside at the Centre. Sufficient data was gathered for the analysis. Patients had to meet the selection criteria to participate in the study.

Inclusion criteria

- Are on a chronic hemodialysis schedule at the Durban Kidney and Dialysis Centre.
- Had received dialysis for more than six months so they had adapted to the procedures.
- Are hemodynamically stable and alert during the interview session.
- Are eighteen years and above.
- Are cognitively able to give consent and understand the questions asked.
- Of any gender.
- Of any race.

Exclusion criteria

- Those medically unfit to participate (confirmed by the consulting specialist).

Data collection

The researcher was fortunate to access the patient's medical records which were a rich source of information, particularly information relevant to pain management. These were analyzed and recorded in terms of, for example, their analgesic usage, pain symptoms, and types and frequency of pain, both on and off dialysis. The records were scrutinized for the past three months before the study. At all times the researcher respected the ethical procedures of the Centre in terms of usage of the patients' records. The age, gender, cause of CKD/ESRD, co-morbid conditions, occupation, duration of therapy, and marital status were noted. Cardiac conditions, hypertension, and diabetes were recorded to evaluate the possible causes of pain experienced.

Staff clinical assessment practices and their response to the pain symptoms of the patient were also scrutinized. Minutes of staff meetings and procedures for recording patients' pain symptoms were analyzed.

A structured Pain Interview Questionnaire based on the McGill Pain Questionnaire (MPQ) (Melzack, 1975), was administered to the patients during their dialysis treatment. The questions were divided into three classes which corresponded to the sensory, affective, and evaluative aspects of pain and several were ranked-ordered according to pain intensity. The questionnaire also included

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol. 5 No. 9 (2024): September 2024 Issue
https://doi.org/10.51168/sjhrafrica.v5i9.1230
Original Article

specific questions concerning the nature, duration, intensity, frequency, location, impact of pain, and methods of dealing with the pain. The instrument has been validated with numerous studies on types of pain (Binik et al., 1982). The interviews ranged from 25 to 45 minutes. The variation in time also was influenced by the amount of pain and discomfort experienced by patients. Prompts were used by the interviewer as the need arose. This qualitative approach allowed the researcher to capture the complexity of the challenges of the patients and the concerns they faced about the pain they experienced. A structured questionnaire was administered to the staff. The questions were related to their perceptions of and decisions in assessing and managing the pain experienced by the patient. Knowledge of staff regarding pharmacological and non-pharmacological approaches to pain management was also probed. All information was strictly confidential, and anonymity was guaranteed.

Statistical analysis

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 24.0. A $p < 0.05$ was considered statistically significant. The results are presented as descriptive statistics in the form of graphs, cross-tabulations, and other figures for the qualitative data that was collected. Inferential techniques include the use of correlations and chi-square test values, which are interpreted using the p- p-values.

Ethics

The study was approved by the Ethics Committee of The Durban University of Technology. Informed consent was also obtained from the Head of the Clinical Department of the Durban Kidney and Dialysis Centre. The relevant patients attending this private renal facility were included in the study and they signed consent forms as well.

RESULTS AND DISCUSSION

The sample that responded and the methodology used yielded a result that was very representative of the perceptions of staff and patients at the Centre regarding pain and the management thereof. Therefore, the result of this study enhances the understanding of the vital role of effective pain management therapies for these patients. Patients were all on hemodialysis and averaged 57 years old. The male-to-female patient ratio was 58.3%:41.7%. However, pain was not related to gender or race in this study. According to the findings of this study (Figure 1), 98.3% of patients reported pain symptoms during dialysis, and 72.3% of patients reported moderate to severe pain, indicating that pain is a major symptom burden in this patient population. Lower back pain (80%), lower leg pain (51.7%), and upper chest pain (46.7%) were the most frequently reported symptoms. Patients frequently reported pain following dialysis sessions (78,35%). Pain was reported to affect between 53, 3%, and 65% of patients the most, for example, when climbing stairs or walking. This study's patients had significant co-morbid diseases, with 26.7% reporting hypertension, diabetes, and a cardiac stent. As a result, the causes of pain are multifactorial, making pain management difficult. There was a significant relationship between pain and older age, long years on dialysis, and the time at the end of the haemo-dialysis (HD) treatment session (p 0.0 5). Patients (72,7%) shortened their time on dialysis because of severe pain experienced. A large proportion (85%) of patients in this study were depressed. According to Weisbord et al. (2016), dialysis patients frequently experience multiple complex symptoms (such as cardiovascular disease and bone disease), which, when combined with chronic pain (for example, from the disease itself, surgical procedures, or co-morbidities), impairs their overall HRQoL and decisions about the duration and continuation of dialysis treatment (Curtin et al., 2002; Davison et al., 2010; Murtagh et al., 2007; Kimmel et al., 2003). In this study, it was discovered that 100% of staff stated that most patients reduced their dialysis time due to severe pain. Thus, this study shows that there is a significant relationship between compliance and pain. This decision would exacerbate the progress of the CKD condition

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol. 5 No. 9 (2024): September 2024 Issue
https://doi.org/10.51168/sjhrafrica.v5i9.1230
Original Article

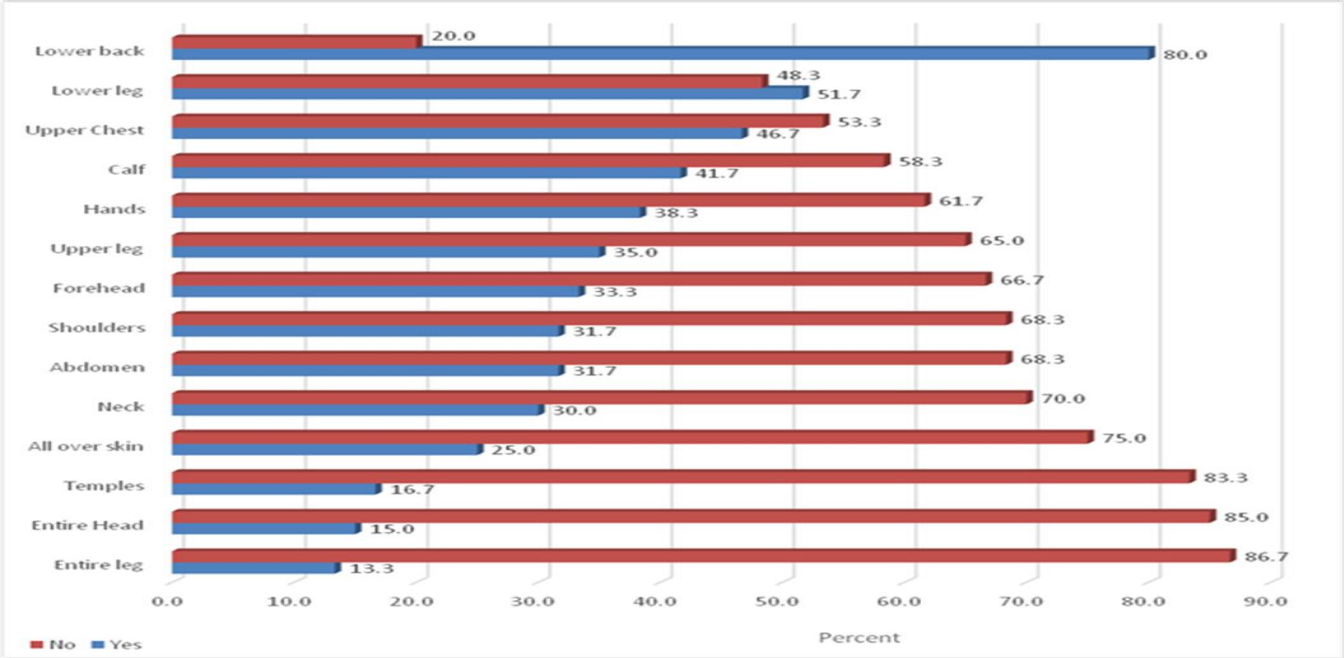

Figure 1: Represents the site of the most severe to the lease severe pain experienced by patients at the Durban Dialysis and Kidney Centre

The renal staff in the Centre are highly qualified to perform their duties. However, they did not offer analgesics for pain relief at the end of the dialysis session when many patients complained of pain and terminated their session early (Figure 2). All the staff ensured that patients were comfortable rather than offered analgesics to relieve pain during or after dialysis. However, there were no pain assessment instruments for staff to clinically assess the types, frequency, and severity of pain that was experienced by the patients. There was a lack of guidelines to assist staff in making decisions about analgesic use. Significantly more respondents (78.3%) indicated that pain occurred most at the end of the dialysis session ($p < 0.001$) (Figure 2). However, there was no clinical pain assessment tool administered to patients in the Centre. Patients were informally assessed on their pain levels. The American Medical Association (1999) found that unless patients were asked explicitly about their pain, they did not report it. This finding implies that for dialysis patients to receive adequate treatment for their pain, an explicit pain assessment must be part of the treatment they receive.

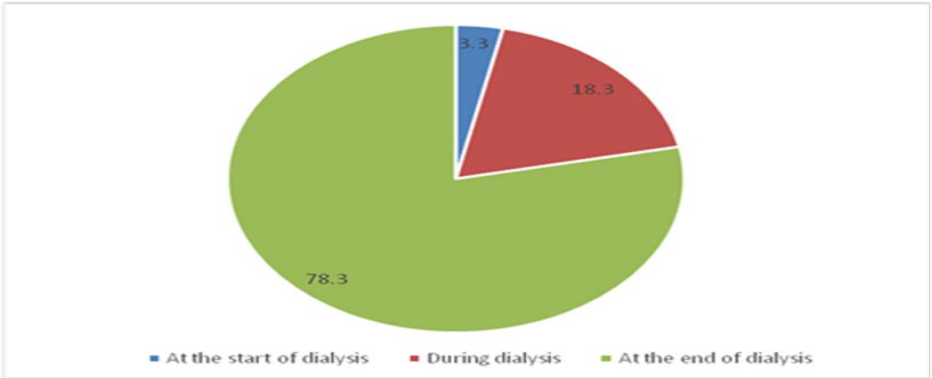

Figure 2: The phase during dialysis that pain symptoms are most severe experience by patients at the Durban Dialysis and Kidney Centre

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol. 5 No. 9 (2024): September 2024 Issue
https://doi.org/10.51168/sjhrafrica.v5i9.1230
Original Article

The pain medication that was primarily used by patients was Panado (53.3%) and the least used medication was Mybulen (1.17%). Interesting to note that the majority of staff reported that Lyrica was recommended for muscle pain, joint pain, and numbness but Panado was still the preferred choice by the patients, as only 11.7% of patients used Lyrica. In the last decade, research has demonstrated that the implementation of the WHO three-step analgesic ladder significantly reduces pain in CKD patients (Barakzoy and Moss, 2006; Davison, 2005; Kurella, et al., 2003). Some analgesics were found to be safe, such as acetaminophen and fentanyl; others needed dose adjustments, for example, tramadol and methadone. Some analgesics, such as morphine and codeine should be avoided altogether (Koncicki et al., 2015; Murtagh, et al., 2007; Barakzoy and Moss, 2006; Davison, 2005). Adjuvants such as anticonvulsants and antidepressants may be co-administered at any stage of the WHO ladder for neuropathic pain (Glick and Davison, 2011; Davison, 2006). In general, analgesics should be started at low doses and titrated carefully for CKD patients. Davison et al. (2014), warn that careful attention should be paid to issues of efficacy and safety because there is insufficient evidence to provide definitive guidelines about the use of various opioids for CKD patients.

As outlined in Figure 3, nearly 60% of the patients used physiotherapy, whilst 18.3% of the patients utilized the dentist as an alternative treatment to relieve pain. Minimal patients (1,7%) utilized the services of a neurosurgeon, psychiatrist, and chiropractor, whilst 3,3% of patients used the alternative services of a religious healer to help cope with their pain. It is highly recommended that the Centre regularly provides the services of a pain management specialist to assist patients cope with their pain.

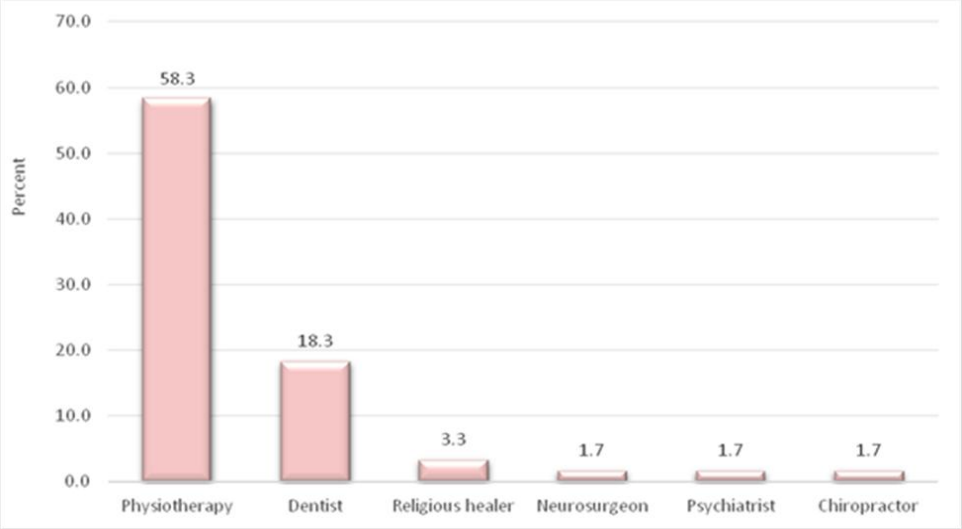

Figure 3: Alternative form of pain relief used by patients at the Durban Kidney and Dialysis Centre

To relieve their pain, 44 (73%) patients said they used ice packs; 37 patients (62%) used heat and 35 (58,3%) had massages (Figure 4). Massage of a painful limb by the patient or a therapist helps to decrease muscle tension and relieve pain (Kafkia et al., 2014). In addition, it brings about mental and physical relaxation. Heat application, such as warm blankets or electric heat pads, causes vasodilatation resulting in increased blood flow and reduced pain levels. Nonsteroidal anti-inflammatory drug (NSAID) use appears to be high, while opioid use appears to be low. Furthermore, there was no evidence that adjuvants were prescribed or used. Thus, the patterns of pain medication recommended and/or taken by patients in this study demonstrate a simple, generalized pharmacological approach rather than a targeted therapeutic intervention specifically tailored to the type of pain experienced by the patient; an approach that has also been reported (Davison et al., 2014). Despite the high prevalence of pain, several international studies have found that CKD patients use analgesics infrequently (Kurella et al., 2003; Murtagh et al., 2007; Dean, 2004). This could be due to a lack of analgesic education among patients, a failure to recognize the type of pain, or a failure on the part of staff to follow up. The high cost of medication for patients, as well as their lack of knowledge about pain management strategies, are also barriers to the use of analgesics. As a result, this study demonstrates that there is a significant relationship between compliance and pain.

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol. 5 No. 9 (2024): September 2024 Issue
https://doi.org/10.51168/sjhrafrica.v5i9.1230
Original Article

Pain was not related to gender or race in this study. However, it was clear that none of the patients in this study exercised. As a result, these patients must be referred to a physiotherapist or bio-kinesthesis specialist so that they can receive appropriate physical training to help alleviate their pain symptoms. Non-pharmacological treatments include psychological and cognitive behavioral therapy, as well as relaxation techniques, hypnosis, breathing exercises, yoga, and spiritual counseling (Davison, 2005). Other non-pharmacological approaches, such as heat, ice, and massage, should be considered as part of a multimodal pain management strategy. Santoro et al. (2013) discovered that various forms of electrotherapy, the most used being transcutaneous nerve stimulation, are effective in pain relief (TENS).

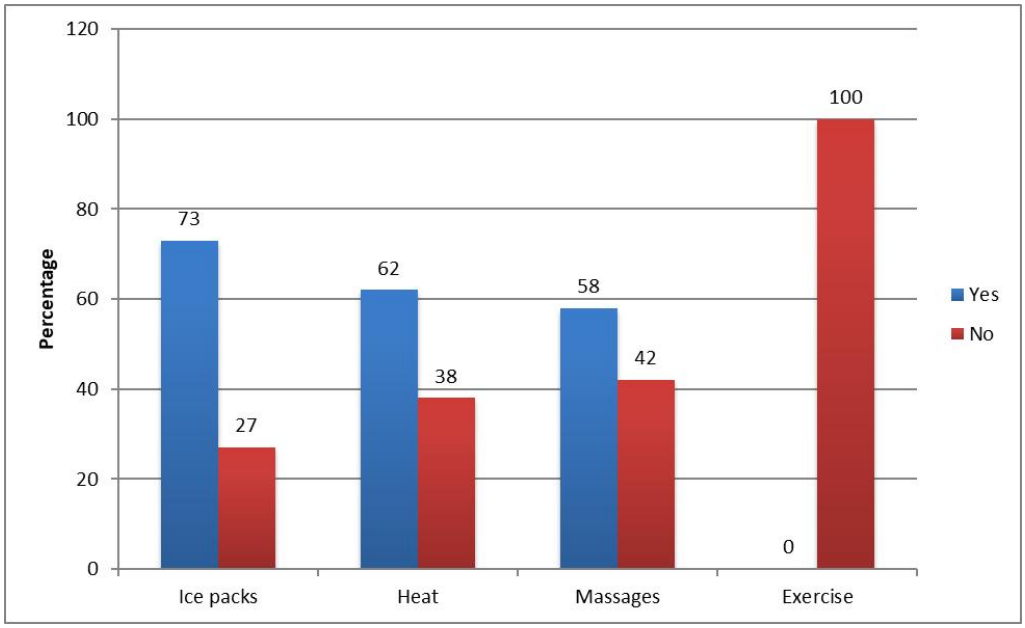

Figure 4: Non-pharmacological treatment for pain relief used by patients at the Durban Kidney and Dialysis Centre.

CONCLUSION

Pain affects a significant number of CKD patients, which has a negative impact not only on their HRQOL but, as demonstrated in this study, reduces time on dialysis treatment, leading to further renal impairment. Renal healthcare professionals should strive not only to prolong patients' lives but also to improve their quality of life by implementing appropriate and timely pain relief strategies. Davison believes that developing pain management strategies and interventions that evaluate both efficacy and safety in diverse CKD patient populations will make this possible.

Intensive efforts must be made to educate patients and staff about pain management therapies. This must be reinforced not only by renal staff, but also by pharmaceutical companies, specialist nephrologists, and home caregivers. Continuous pain management education, such as patient workshops, staff seminars, and educational pamphlets (in all languages), is critical to increasing patient awareness and adherence to pain relief in this vulnerable group.

There is an unmistakable link between pain and functional capacity. In terms of functional capacity, most patients stated that their ability to work effectively was hampered by chronic pain, which was exacerbated by a lack of sleep. Appropriate and timely pain management therapies may help improve patient adherence and HRQoL. There are enormous potential benefits for patients if their pain is effectively managed, particularly in terms of improved HRQoL, decreased hospitalizations, and decreased desire to shorten dialysis treatment time.

Dialysis patients face significant financial burdens, including medication costs. Other barriers to pain management could provide additional insights into the difficulties dialysis patients face in dealing with pain. Investigating staff and patient perceptions of pain management provides a deeper understanding of a variety of pain-related issues, allowing renal healthcare professionals to better understand the impact of pain from the patient's point of view. This small study is an attempt to add to the general body of knowledge about pain

management in CKD patients, particularly from a South African perspective.

Despite its limitations, this study provides valuable insights that will inform current Centre practice. Pain management therapies are required by K/DOQI guidelines to provide some level of comfort and relief. It is reasonable to avoid causing unnecessary pain, distress, and discomfort to patients with chronic kidney disease. It is critical for renal health care professionals to ensure that the patients in their care are aware of and adhere to recommended pain management therapies, which will not only improve patient outcomes but also improve their comfort, function, and satisfaction with care. Pain management in CKD patients is difficult but not impossible. Patients can have a high quality of life by reducing their pain to a tolerable level, using a systematic approach in the selection of analgesics, prompt management of side effects, ongoing pain assessment, and the use of non-pharmacological therapies.

RECOMMENDATIONS

The results show that pain is a major symptom burden but the use of analgesics is under-prescribed. Pain management, interventions, and strategies should be a research priority because pain is a valid and considerable health concern in the increasing CKD patient population.

Undoubtedly the renal staff are critical in the first-line care of the patients with CKD. However, to manage and treat pain in patients with CKD, it will be essential to re-train the renal staff to assess pain experienced by the patients in their care by the use of appropriate pain assessment instruments that are contextualized for the Centre. A casual or informal query by the staff about the pain experienced by the patient is insufficient. On the part of staff, accurate diagnosis through the use of pain assessment instruments is useful. Thus, the first critical step for the management of the Centre would be to develop a holistic and simple assessment tool to be regularly used (at least once per month) to determine, for example, the types and severity of pain. This would be a new and challenging area for renal care and not one seen in the practice in the region and goes beyond just ensuring that "the patient is made comfortable" when they complain of pain. There are several ways to assess or measure pain as discussed in the literature review, for example, there are numeric scales, visual analog scales, and verbal descriptive scales.

COMPETING INTERESTS

All authors declare no competing interests.

FUNDING

No funding was availed to the authors to analyze and write up this work.

AVAILABILITY OF DATA

The raw data supporting the conclusions of this article will be made available by the principal investigator Shamanie Govender without undue reservation.

PUBLISHER'S NOTE

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors, and the reviewers. Any claim that may be evaluated in this article, is not guaranteed or endorsed by the publisher.

AUTHORS' CONTRIBUTION

The conception of the idea, initial manuscript drafting, analysis, result interpretation, and subsequent manuscript revisions were collaborative efforts among all authors who reviewed the initial draft and subsequently contributed to further revisions of the manuscript and granted approval for the final version of the manuscript.

REFERENCES

1. Babbie, E. & Mouton, J. (2001). The practice of social research. South Africa: Oxford University Press.
2. Barakzoy, A. & Moss, A. H. (2006). Efficacy of the World Health Organisation analgesic ladder to treat pain in end-stage renal disease. *Journal American Society Nephrology.* 17, 3198-3203.
3. Binik, Y. M., Baker, A. G., Kalogeropoulos, D., Devins, G. M., Guttmann, R. D., Hollomby, D. J., Barré, P. E., Hutchison, T., Prud'Homme, M. & McMullen, L. (1982). Pain, control over treatment, and compliance in dialysis and transplant patients. *Kidney International*, 21, 840-848.
4. Brkovic, T., Burilovic, E. & Puljak, L. (2016). Prevalence and severity of pain in adult end-stage renal disease patients on chronic intermittent hemodialysis: a systematic review. *Dovepress*, 10, 1131-1150
5. Curtin, R. B., Bultman, D. C., Thomas-Hawkins, C. T., Walters, B. A. J. & Schatell, D. (2002). Hemodialysis patients' symptoms experience effects on physical and mental functioning. *Nephrology Nursing Journal*, 29, 562-574.

6. Danquah, F. V. N. (2009). Frequency, severity, and distress of dialysis-related symptoms reported by patients on hemodialysis. Ph. D. Thesis in Nursing: The University of Texas.
7. Davison, S. N., Koncicki, H. & Brennan, F. (2014). Pain in chronic kidney disease: a scooping review. *Seminars in Dialysis*, 27, 188-204.
8. Davison, S. N. (2007). Chronic kidney disease: the psychological impact of chronic pain. Geriatrics, 62, 17-23.
9. Davison, S. N. (2006). The management of chronic pain in end-stage renal disease. *CML Nep & Hyp*. 1-9.
10. Davison, S. N. (2005). Chronic pain in end-stage renal disease. *Advances in Chronic Kidney Disease*, 12, 326-334.
11. Davison, S. N. (2003). Pain in hemodialysis patients: prevalence, cause, severity, and management. *American Journal of Kidney Disease*, 42, 1239-1247.
12. Davison, S. N. & Jhangri, G. S. (2010). Impact of pain and symptom burden on the health-related quality of life of hemodialysis patients. *Journal of Pain and Symptom Management*, 39, 477-485.
13. Dean, M. (2004). Opioids in renal failure and dialysis patients. *Journal of Pain and Symptom Management,* 28, 497-504.
14. De Vos, A. S., Strydom, H. & Fouché, C. B. (2002). Research at the grassroots for the social sciences and human service professionals. Delport: Van Schaik Publishers.
15. Harris, T. J., Nazir, R., Khetpal, P., Peterson, R. A., Chava, P., Patel, S. S. & Kimmel, P. L. (2012). Pain, sleep disturbance and survival in hemodialysis patients. *Nephrology Dialysis Transplantation*, 27, 758-765.
16. Idrissi, S. H. (2020). Guidelines for the management of acute pain in emergencies. Belgium. *European Society for Emergency Medicine*.
17. Kafkia, T., Vehviläinen-Julkunen, K. & Sapountzi-Krepia, D. (2014). Assessment and management of pain in hemodialysis patients: a pilot study. *Progress in Health Sciences*, 4, 53-59.
18. Kimmel, P. L., Emont, S. L., Newman., J. M., Danko, H. & Moss, A. H. (2003). ESRD patient quality of life: symptoms, spiritual beliefs, psychosocial factors, and ethnicity. *American Journal of Kidney Disease*, 42, 713-721.
19. Koncicki, H. M., Brennan, F., Vinen, K. & Davison, S. N. (2015). An approach to pain management in end-stage renal disease: considerations for general management and intradialytic symptoms. *Seminars in Dialysis*, 28, 384-391.
20. Kurella, M., Bennet, W. M. & Chertow, G. M. (2003). Analgesia in patients with ESRD: a review of available evidence. *American Journal of Kidney Disease*, 42, 217-228.
21. Manjiani, D., Kunnumpurath, S. & Kaye, A. D. (2014). Availability and utilization of opioids for pain management: global issues. The Ochsner Journal, 14, 208–215.
22. Melzack, R. (1975). The McGill pain questionnaire: major properties and scoring methods. *Pain*, 1, 277- 299.
23. Murtagh, F. E., Addington-Hall, J. M. & Higginson, I. J. (2007). The prevalence of symptoms in end-stage renal disease: a systematic review. *Advances in Chronic Kidney Disease*, 14, 82-99.
24. Murtagh, F. E., Chai, M. O., Donohoe, P., Edmonds, P. M. & Higginson, I. J. (2007). The use of opioid analgesia in end-stage renal disease patients managed without dialysis: practice recommendations. *Journal of Pain and Palliative Care Pharmacotherapy*, 21, 5-16.
25. Patel, S. (2013). Treating pain to improve quality of life in end-stage renal disease. *Seminars in Dialysis*, 26, 268-273.
26. Santoro, D., Satta, E., Messina, S., Costantino, G., Savica, V. and Bellinghieri, G. 2013. Pain in end-stage renal disease: a frequent and neglected clinical problem. *Clinical Nephrology*, 79 (supplement 1), S 2-S 11.
27. The American Medical Association and The Robert Wood Foundation. (1999). The EPEC project: education for physicians on end-of-life care. M4: 1- M4: 33. [online]. [Accessed 28/02/2018].
28. The British Pain Society. (2013). Guidelines for pain management programs for adults. An evidence-based review prepared on behalf of the British Pain Society. London, The British Pain Society.
29. Weisbord, S. D. (2016). Patient-centered dialysis care: Depression, pain, and quality of life. *Seminars in Dialysis*, 29, 158-164.
30. Weisbord, S. D., Fried, L. F., Arnold, R. M., Fine, M. J., Levenson, D. J., Peterson, R. A. & Switzer, G. E. (2005). Prevalence, severity, and importance of physical and emotional symptoms in chronic hemodialysis patients. *F*, 16, 2487-2494.

Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol. 5 No. 9 (2024): September 2024 Issue
https://doi.org/10.51168/sjhrafrica.v5i9.1230
Original Article

PUBLISHER DETAILS

SJC PUBLISHERS COMPANY LIMITED

SJC Publishers Company Limited
TODAY AND TOMORROW

Catergory: Non Government & Non profit Organisation
Contact: +256 775 434 261 (WhatsApp)
Email: info@sjpublisher.org or studentsjournal2020@gmail.com
Website: https://sjpublisher.org
Location: Scholar's Summit Nakigalala, P. O. Box 701432,Entebbe Uganda, East Africa