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# Nurses' Knowledge and Educational Needs Regarding Pain Management of Patients on Maintenance Hemodialysis at Edward Francis Small Teaching Hospital, The Gambia

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***Abstract***

*Primary care for pain patients is provided by nurses. Hemodialysis nurses can provide excellent pain relief by understanding pain management. This qualitative study examines hemodialysis nurses' pain management experiences, opinions, and beliefs and their training needs. Fifteen nurses working at Edward Francis Small Teaching Hospital hemodialysis unit were recruited. The data came from semi-structured interviews. The interviews were recorded and transcribed. This data was crucial for analyzing pain management treatments for maintenance hemodialysis patients, creating educational programs for nurses, and teaching about these topics. Five themes and fifteen sub-themes emerged from nurses' pain treatment experiences. The five themes that emerged from the analysis entailed: Nurses' pain management knowledge, self-directed learning methodologies, approaches, patients with unrelieved pain, and educational requirements. A qualitative investigation showed that nurses are unaware of all pain management methods. Nurses' pain treatment knowledge was limited to evaluation and non-pharmacological methods. In practice, nurses need pain management education, to better comprehend pain in maintenance hemodialysis patients.*

***Keywords:*** *Education; EFSTH, Nurses, Pain Management, Knowledge; The Gambia.*

## Introduction

Pain is a common complaint among End-Stage Renal Disease (ESRD) patients who frequently receive Maintenance Hemodialysis (MHD) [1]. A decline in renal function that lasts longer than three months and necessitates renal replacement therapy (RRT) is known as end-stage renal disease (ESRD) [2]. Globally, the prevalence of ESRD is rising, partly due to extended life expectancy in many countries and worse health habits linked to Western diet and lifestyle [2]. This rise in prevalence is a result of chronic kidney disease, which has grown to be a significant global public health issue because of its potentially fatal consequences [3]. In Sub-Saharan Africa, the early mortality rate for beginning renal replacement therapy (RRT) is 90%, compared to 3% in European countries [4].

For most patients, pain is the most upsetting and dreaded symptom they encounter while in the hospital receiving maintenance dialysis. According to the International Association for the Study of Pain (IASP), defined pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage [5]. Pain in patients is not a common research topic, but; the majority of the data comes indirectly from studies that concentrate on quality of life in relation to health. Research on understanding the causes, manifestations, and specifically, management of pain is scarce [6]. Pain may affect up to 92% of hemodialysis (HD) patients. In a poll of HD patients, 55% said they had experienced a severe pain episode

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during the last 24 hours. In addition, almost 75% of HD patients say their pain is not adequately managed. There are no well recognized guidelines for the management of pain in HD patients, despite these alarming rates. However, inadequate pain management in HD patients leads to psychological issues, poor sleep, reduced adherence to dialysis, and a general deterioration in quality of life [7]. The substantial pharmacokinetic discrepancies between HD patients and their healthy counterparts may make providers reluctant to give analgesics to HD patients. While most medications' pharmacokinetic changes are thoroughly investigated in "healthy" patients, there is a great deal of mystery surrounding the physiochemical characteristics of HD patients [7].

Patients with chronic kidney disease experience a variety of pains, and the causes of these pains can be effortless or complex. They can be related to systemic and comorbid underlying diseases, kidney failure, or the actual hemodialysis or peritoneal dialysis [6]. The health-related quality of life of patients with end-stage renal disease (ESRD) is adversely affected by persistent pain, which is linked to poor sleep patterns, anxiety and depression, memory loss, and decreased cognitive function. Delays in managing ESRD-related pain are linked to serious physical, mental, and social complications that can lead to further morbidities. Additionally, a lower health-related quality of life is linked to a higher risk of hospitalization and dialysis withdrawal [5].

Hospital settings have been the subject of research on educational interventions that focus on pain management. Al Qadire and Al Khalaileh conducted a survey on nurses' knowledge and attitudes regarding pain management in Jordan and discovered that nurses who had previously received pain management education scored higher on the survey. The same authors then used the same survey before and after an educational intervention in a different study, and the total score of nurses' knowledge and attitudes toward pain was higher and the attitudes significantly improved after the intervention. Crucially, nurses were more likely to provide higher health-related quality care following education, suggesting that this approach could be helpful in improving patient care [8]. Pain studies in The Gambia indicated that, nurses lack knowledge [5].

Systemic barriers to pain management in The Gambia include the inaccessibility of drugs because of complex administrative processes and the lack of medical and nursing education regarding pain management; patient barriers include social stigma, a lack of knowledge and education, and the fear of addiction among patients and healthcare professionals [5].

Nurses find it difficult to stay informed about pain management for patients on MHD. Research has shown that nurses' inappropriate attitudes and lack of knowledge regarding pain management have a significant impact on treatment and patient care [9].

In an attempt to better understand this problem, the goal of this study is to conducted a qualitative study to (1) investigate the experiences, perceptions, and beliefs of nurses in the hemodialysis unit (HDU) regarding pain management practice, and (2) determine the educational needs of nurses working at Edward Francis Small Teaching Hospital (EFSTH), Banjul, The Gambia, Hemodialysis Unit on pain management in practice.

## Materials and Method

### Study Design and Setting

A descriptive hospital-based qualitative study designed was used to measure nurses’ knowledge and educational needs regarding pain management with patients on Maintenance Hemodialysis towards pain in hospitalized patients.

**Study Setting**

The Edward Francis Small Teaching Hospital (EFSTH) in Banjul, The Gambia's main teaching and primary referral hospital, served as the study's site. It consists of seven departments: Internal Medicine, Surgery, Ophthalmology, Obstetrics and Gynecology, Pediatrics, Theater, and Accident and Emergency Unit. About 2,000 patients are seen every day in the hospital's polyclinic and specialty clinics, which have a total of 563 beds. There are now 275 trained nurses employed by the hospital, according to its nominal roll record. Of these, 200 are directly caring for patients, and the remaining 75 are nursing managers and nurses on leave [5].

**Sampling Size and Sampling Technique**

A purposive sampling of 15 nurses working at the hemodialysis unit at Edward Francis Small Teaching Hospital, participated in the study. The sample size was determined when data saturation was attained. The target participants were nephrology nurses working in hemodialysis unit, who had direct experience with patient on maintenance dialysis.

**Eligibility Criteria**

The inclusion criteria for participation were a minimum of six months of experience prior to the interview, capable of engaging in an English-language conversation, hold a certificate in nursing and consented to participate in the study. Nurses who were on leave, nurses in outpatient clinics, and nursing administrators were excluded from the study due to their failure to administer interventions that would evaluate and alleviate pain in their respective work environments.

**Data Collection Procedure**

A face-to-face, semi-structured interview in English was used to collect data from the participants starting in December 2024. The interview questions were why, who, what does that mean to you, explain more, and could you give an example. The interviews were recorded with the consent of the participants and lasted between 30 and 45 minutes. Following the thirteenth interview, data saturation was reached, and two additional interviews were conducted after that. The verbatim transcriptions of the recorded interviews were made the same day.

**Data Analysis**

Two researchers helped with the transcription of the interviews and the analysis of the information gathered. Qualitative content analysis is used in nursing studies to conceptually describe a phenomenon [10]. The three main stages of the analysis were (1) preparation, (2) organization, and (3) reporting the results.

The content was in line with the research's objectives and queries. According to the results, the preparation stage's function is to enable the researcher to choose the unit of analysis [11] The unit of analysis is useful in qualitative research since the researcher is familiar with the dataset. In addition, the preparation period helps the researcher to become absorbed in textual data [10].

Following recommendation of [11] suggested stages for content analysis, was used as a guide to carried out the analysis. There were five steps that summarized the analyses:

1. Step one: is to record the interviews and then read them multiple times in other to become familiar with the transcribed data.
2. Step two: Separating the text into meaningful units and assigning codes to each unit.
3. Step three: labeling and using codes to abstract and condense meaning units.
4. Step four: to group codes into subcategories and categories
5. Step five: Formulating a theme.

As the units of analysis, the interviews were carefully read and distilled into digestible chunks. During the condensation process, texts were read and condensed into the sentences,

paragraphs, or phrases that were most pertinent to the clinical inquiry. After that, the distilled material was combined into higher-level headings known as categories.

Chunks of the text were designated as content sections based on the transcribed interviews and theoretical presumptions from earlier research on nurses' perspectives of chronic pain and pain treatment experiences. These subject areas were given codes, which are labels pertaining to the event, emotion, or phenomenon being described. The process of decomposing the content regions resulted in the development of labels that addressed the question, *"What?"* No data in any of the content sections belonged to more than one category; all data belonged to one category. Several categories were combined into a single theme by sharing common underlying values. Without necessarily being mutually exclusive, the themes were devised to address the question of *how*? Each category was part of a minimum of one theme.

### Rigor

Credibility, dependability, conformability, and transferability are the four factors that were taken into account for qualitative research [10]. By having an outside researcher who was not involved in the data gathering process review the processed data to make sure nothing was missed, credibility was ensured.

### Ethical Consideration

Permission was obtained from Research Ethics Committee (REC) Edward Francis Small Teaching Hospital (REC) (EFSTH_REC_2024 075) before the study commence. All recruited participants underwent the consenting procedure, which included explaining the objectives and nature of the study, benefits and risks to participants. Participation in the study is voluntary and participants have the choice to withdraw at any time during the study. All data are kept secure on a computer and access only by the investigation team.

## Results

**Table 1.** Results: Sociodemographic Characteristics of Participants (N=15)

| Variable | Frequency | Percentage-Mean ± SD |
|---|---|---|
| **Gender** | | |
| Male | 5 | 33.3 |
| Female | 10 | 66.7 |
| Age (years) | | 29.39 ±SD 6.3 |
| 21-30 | 11 | 73.3 |
| 31-40 | 2 | 13.3 |
| 41-50 | 2 | 13.3 |
| **Years of working experience** | | |
| 1-5 | 7 | 46.6 |
| 6-10 | 3 | 20 |
| >11 | 3 | 20 |
| >20 | 2 | 13.3 |
| **Education level** | | |
| Certificate | 3 | 20 |
| Diploma (RN) | 5 | 33.3 |
| Bachelors (RN-BSN) | 7 | 46.6 |

A total of fifteen nurses (n=15) took part in this one-on-one interview, as indicated in Table 1. The study participants' ages ranged from 21 to 50 years old, with a mean age of 29.39 years (SD ± 6.3). The range of years of professional job experience was 1 to 26 years, with a mean of 5.17 years (SD ± 5.0). Most respondents (n = 11, 73.3%) were between the ages of 21 and 30; the majority were female (n = 10, 66.7%); and the majority (n = 7, 46.6%) held a bachelor's degree in nursing.

The findings from the interviews conducted with nurses in hemodialysis units are broken down into 5 main themes and 15 subthemes as shown in Table 2.

**Table 2.** Themes and Sub-themes

| THEMES | SUB-THEMES |
|---|---|
| Nurses understanding of pain management | Associating Pain with Physical Symptoms.<br>Understanding of Comorbid and Systemic Diseases.<br>Start Assessing Pain in Response to Patient Complaints.<br>An evaluation of general appearance pain. |
| Nurses' self-learning pain management technique | Acquire knowledge on my own to fill up the gaps in pain management.<br>Utilizing the Available Informational Resources for Pain Management.<br>Not Having Pain Assessment Records.<br>Lack of Standing Pain Management Orders |
| Nurses' pain management approach | Non-pharmacological Techniques for Managing Pain.<br>Inadequate capacity to Address Patient Pain. |
| The environment in which patients continue to experience pain | Feeling powerless and frustrated.<br>Basic activities had been hindered by pain. |
| Nurses' educational requirements | Evaluation and Treatment of Pain.<br>Standard of Practice for Nursing.<br>Evidence-Based Procedures. |

**Nurses Understanding of Pain Management**

The findings showed that nurses' understanding of how to assess and treat pain in patients with MHD differed amongst those in the participants. Every nurse was familiar with assessing pain. Hemodialysis patients get nursing care that includes pre-dialysis, intradialytic, and post-dialysis assessments; however, nurses have discretion about how to assess discomfort. To ensure continuity of care, the patient care team cannot consult any pain assessment paperwork.

**Associating Pain with Physical Symptoms**

Nurses' expertise of pain evaluation before beginning HD sessions ranged from standard pain assessment methods such using standard assessment instruments to reacting to patient complaints and evaluating patients' pain appropriately. Some nurses stated that during routine procedures performed prior to dialysis, they were able to detect the existence of pain after observing symptoms of infection or fever. Before beginning the HD procedure, one nurse *(Female, Participant 2- 28years)* stated that they typically check fistulas or catheters and

vital signs. We take a series of vital signs and examine the fistula or catheter before starting dialysis. In addition to having a high fever, my patient also had a warm fistula or catheter site on the left arm, pus surrounding the site of the previous needlestick, widespread pain, weakness, and a sick feeling. Pain usually accompanies these symptoms. "*When these circumstances arise, I employ the numerical rating scale".* A nurse stated, *(Male, participant 15-57years) "My patient came yesterday with low-grade fever, left arm where the fistula was warm to touch. He told me he had a high-temperature last night, aching all over, felt very weak and ill. I know there is an infection."* Some nurses evaluate pain after hearing patients' descriptions of their symptoms.

**Understanding of Comorbid and Systemic Diseases**

The nurses also demonstrated some understanding of how to assess chronic pain from patient reports and determine whether it is related to the HD procedure. One nurse stated *(Male, participant 1- 30years, "Our patients are always in pain. Constant body pain."* The nurses were also able to determine the sources of reported pain by looking through patient records to see if there were any preexisting conditions. One nurse stated *(Female, participant 2-28years), "I looked at patients' old record. We have to help manage patients' pain. I want to say that some of the patients' pain is not associated with the HD procedure and could be related to diabetes, COPD, peripheral vascular disease, heart issues, arthritis, you name it".*

**Start Assessing Pain in Response to Patient Complaints**

Although they can sometimes spot symptoms of discomfort, the interviews also showed that nurses in HDUs assess patients' pain in response to patient complaints. When a patient reports experiencing back, chest, or arm pain, or bodily discomfort, nurses are typically notified to pain during HD. The patient asked me to halt dialysis two hours into the procedure, saying, *"My arm hurts so bad,"* according to one nurse *(Female, Participant 2, 28 years)*. I discovered that the catheter was not functioning. During dialysis, patients frequently complained of chest pain, according to another nurse *(Male, participant 9- 30years*. *"When his hemodialysis session started, my patient appeared to be his normal self."* The patient complained of chest pain during the course of treatment. She was running her hands up and down her jaw while they were over her chest. My patients have previously complained of chest pain while receiving dialysis.

**An Evaluation of General Appearance Pain**

By asking patients if they are in pain and keeping an eye out for any indications of discomfort, some nurses are able to recognize pain. During hemodialysis, I constantly inquire whether my patients are in any pain. Many would say *(Male, Participant 3, 33 years), (Female, Participant 4, 28 years), (Female, Participant 14, 45years, "I have been sitting in the same position for a long time, and I have back pain."* In the case of other patients, the nurse does not need to confirm the clear evidence of pain.

**Nurses' Self-Learning Pain Management Technique**

The results of the study showed that HDU nurses learn about pain management on their own. The majority of the nurses stated that they were not instructed or aware of the procedures for handling patients' pain at the HDU.

**Acquire Knowledge on My Own to Fill up the Gaps in Pain Management**

*(Female, Participant 2, 28years)* Stated; *"To be fair to all nurses working in our hemodialysis units, there are no pain management guidelines passed on to us to follow, so I teach myself pain medications*

*because some patients are on pain medication at home."*

*(Male, participant 5, 28 years) "I had no pharmacological pain medication education since I started in this unit, according to one nurse".*

**Utilizing the Available Informational Resources for Pain Management**

The internet is used by nurses to find potential pain management techniques for HDU patients. *(Male, participant 6, 34 years)* "*I do a Google search if I need any information about pain management and medications for ESRD,"* one nurse said. Inquiring about pain management techniques for patients on MHD, other nurses go to senior colleagues or physicians. *"When I need information, I usually go to more experienced nurses or the doctors, if available, or recall my previous experience in similar situations," (Male Participant 7, 38 years)*.

**Not Having Pain Assessment Records**

In situations where the dialysis unit lacks protocols for pain evaluation during HD, nurses' understanding of pain assessment was also demonstrated. Despite the dialysis units' lack of formalized procedures for pain evaluation and management, one nurse claimed to have taken the effort to inquire about patients' comfort in order to gauge their level of pain. *(Female, participant 8, 42 years) stated "I don't conduct regular pain assessments. I inquire about my patients' comfort levels*".

**Lack of Standing Pain Management Orders**

The majority of patients take prescribed analgesics at home, nurses are not authorized to give them, and the HD unit typically does not have any analgesics on hand for patients who complain of discomfort during an HD session. According to one nurse *(Female, Participant 14, 45 years), "To be honest, I feel helpless sometimes because our unit does not have standing orders for pain medications. I don't know how patients metabolize opioids, when to take pain medication before or after dialysis, whether dialysis extracts opioids or prescription drugs, or whether it's better to take an oral pain medication or an analgesic patch." I can't visit a patient who is in terrible pain and not give them anything.*

**Nurses' Pain Management Approach**

Non-pharmacological therapies were the mainstay of nurses' pain management strategies for patients with MHD.

**Non-Pharmacological Techniques for Managing Pain**

The majority of nurses stated that they made an effort to include nonpharmacological pain management techniques in their patient care procedures during HD. Various non-pharmacologic techniques were employed, most of which were discovered from Google searches and past experiences. "My hands are restricted, but I am aware that there are alternatives to medicine for pain management, such as applying cold or warm packs, switching positions, utilizing cushions for support, and turning on music on the radio. I found them to be effective even in cases of severe hemodialysis pain" stated by *(Male, Participant 10, 28 years). Another nurse stated (Female, Participant 14, 45 years "I give them a blanket, raise their legs on a pillow when it's appropriate, and play music for them; these also help, especially if the pain is from spending four hours in a chair".*

**Inadequate Capacity to Address Patient Pain**

Insufficient time was cited by some nurses as the reason for their failure to address patients' pain that worsens when they are immobile in the dialysis chair. *(Female, Participant 2, 28years)* stated *"Unfortunately, it is difficult to change patients' positions during the treatment,".* I also don't have the time. *"Our focus is on monitoring our patients' blood pressure and preventing cramps and vomiting*

*during dialysis procedures,"* said another nurse *(Male Participant 7, 38 years)*.

**The Environment in which Patients Continue to Experience Pain**

Given the complexity of hemodialysis pain and the dearth of pain assessment instruments, particularly for hemodialysis patients, the nurses were dissatisfied with their inability to include appropriate pain evaluation into patient care methods. Additionally, nurses saw that pain dominated patients' social and physical interactions in the dialysis unit.

**Feeling Powerless and Frustrated**

The nurses recognized their incapacity to do a comprehensive pain assessment on hemodialysis patients. *(Female, Participant 2, 28years)* stated "*When I can't help patients with their pain, I feel powerless." "I wish we had a relevant, specially designed pain assessment tool for our patients, so that we could help them lessen their suffering, and the authority to give pain medication at the dialysis unit."* Another nurse *(Male, participant 5, 28 years "They have different complaints than those of the other chronic illness patients." "When I search for renal patients' pain, I get frustrated; I don't know much about the causes of their pain, even their skin hurt,".*

**Basic Activities had been Hindered by Pain**

Nurses understand that patients' actions at the dialysis unit are controlled by their pain. Participants noted that patients' inability to complete simple tasks was a result of their pain. *"It is sad to see that my patients can't enjoy simple pleasure due to pain,"* expressed one of the participating nurses *(Male, participant 6, 34 years). "Multiple aches and pains prevent our patients from performing basic tasks, such as getting in and out of the dialysis bed, walking to the car, or conversing with or interacting with other patients in the dialysis unit after dialysis,"* commented another participant *(Male Participant 7, 38 years).*

**Nurses' Educational Requirements**

The educational needs of nurses were divided into two categories: standard operating procedures and methods for managing pain in patients with MHD. The effects of drugs on MHD patients, evidence-based methods for managing pain in HDU, and pain management protocols were among the identified educational needs.

**Evaluation and Treatment of Pain**

The analysis's findings highlighted the necessity of defined procedures and organized nursing education focused on pain management. Because they had not received any particular training on pain evaluation or management in the HD unit, they also reported having little information about how to manage pain among patients on MHD and having to employ procedures used in other units. According to one nurse *(Male, participant 15, 57years), "I am relatively new to HD units, and I used to work in the ICU unit."* I continue to evaluate dialysis patients' pain in the same manner as I did in the intensive care unit.

Additionally, some nurses stated that their understanding of the HD unit's pain assessment and management procedures had deteriorated over time, suggesting the necessity for refresher training on the unit's patient pain management procedures. *"Our unit is very different from floors, the intensive care unit, or even the accident and emergency department, where nurses constantly give medication," said one nurse (Female, Participant 13, 30 years).* I believe that we are losing our understanding of pain treatment. I have been in this unit for over five years, according to another nurse. My understanding of analgesics seems to be waning.

**Standard of Practice for Nursing**

The analysis also made clear how important it is for the unit to have set procedures and guidelines for managing and assessing pain. According to one nurse *(Male Participant 7, 38*

*years, " HDU does not have a standard of practice for pain management nursing, so nurses rely heavily on the standard pain assessment and management of other units."* Numerous nurses acknowledged that they required instruction on how to assess and manage pain as well as general protocols for treatment in the HDU. Despite the fact that pain management is crucial for this patient population, I am not well-versed in it as a nurse. Pharmacists and nephrologists are required to determine and communicate to us the best pain management strategies for chronic kidney disease.

**Evidence-Based Procedures**

The analysis emphasized the necessity of educating nurses on new evidence-based approaches to pain management for patients with MHD. When they need to know about evidence-based techniques for managing patients' pain, nurses said they have a hard time finding them. *"I do a lot of searches on the internet, but I did not find evidence-based practice guidelines for the administration of pain medications for patients on maintenance hemodialysis,"* a nurse wrote *(Female, Participant 2, 28years)*. Colleague focus groups and instructional workshops can teach nurses about evidence-based pain treatment techniques. During lunch breaks or one-on-one conversations, nurses can get together to talk about their personal experiences managing patients' pain. This allows us to communicate and exchange knowledge.

Pain management techniques that are supported by research include both pharmacological and non-pharmacological approaches. Nurses stated that they were unaware of the appropriateness of using drugs to treat dialysis patients. As one nurse put it *(Female, Participant 14, 45 years), "When I started working in this unit, we were not educated about pain medication administration for hemodialysis patients."* According to the nephrologist's expertise, the nurses also suggested regular teaching initiatives that integrated pharmaceutical and non-pharmacological approaches for managing pain in patients with renal disorders.

## Discussion

This study examined nurses' knowledge of pain assessment, their comprehension of pain in hemodialysis patients, and the pain education offered at EFSTH. Furthermore, the findings indicate that nurses' comprehension of pain and pain management in MHD patients was limited to pain assessment, intradialytic care, post-dialysis considerations, and a few non-pharmacological management strategies. These results are in line with earlier research [5,12] that recognized nurses' awareness of patient pain. The degree of nurses' perception of pain in patients on MHD was indicated by the responses that nurses are aware of when to check for infection before starting the procedure; in other situations, nurses want to know how comfortable patients are during dialysis, while others watch for pain and discomfort.

The study's findings show that nurses have had to stop HD procedures when patients are in extreme pain, but their perception and knowledge of pain management are poor due to a lack of training and guidelines from the HDU, hospital guidelines for pain management, and the general lack of information. The study's findings are in line with a previous study [5, 9] that found that inadequate training, knowledge, and increased workload pressures are barriers to effective pain management. Lack of necessary knowledge is a major concern when diagnosing pain in patients using a suitable pain assessment tool, and it also negatively impacts interdisciplinary communication, which results in ineffective pain management.

The findings of this study, particularly with regard to pain management knowledge, are corroborated by another study [13], which suggested that attitudes and knowledge gaps may be a result of inadequate pain education, a

lack of assistance for nurses in bridging theory and practice, and the unavailability of pain scales. Based on the findings, they clarified that nurse supervisors need to give healthcare workers ongoing training so they may become proficient in assessing and managing pain. According to this study, in order to improve pain management procedures, supervisors should provide nurses with supporting supervision in the clinical context.

The findings of this study revealed a conflict between nurses' desire to alleviate patient pain during dialysis by administering pain medication and the absence of regulations in outpatient units permitting such actions. According to the American Nurses Association's position statement, [14]., nurses bear an ethical obligation to deliver optimal care to individuals in pain; the nurses involved in this study demonstrated a commitment to addressing patient pain and administering medication to mitigate any unnecessary suffering, thereby upholding patients' legal right to pain relief. This may elucidate nurses' readiness to manage pain or terminate treatment when pain continues unabated.

The perception of pain management among nurses remains ambiguous. Concerns have been raised about the negative effects of pain relief medications in patients with kidney failure, with some individuals reporting unsuccessful attempts to find relevant information on the topic. Nurses do not administer pain medication; however, some exhibit reluctance in utilizing narcotics for patient pain management. Experienced nurses exhibited awareness of non-pharmacological strategies available for managing patients' pain. The findings correspond with a study [15] that highlighted the responsibility of nurses in effectively managing patients' pain, though this does not necessarily entail the use of narcotics.

The findings of this study indicated that nurses recognize the appropriate moments to evaluate discomfort during the dialysis treatment. The primary rationale for performing pain assessments stems from patient complaints; however, nurses may also see indicators of patient discomfort in some instances. This aligns with the findings of a prior study [16] which indicated that nurses recognize the importance of negotiating fluid withdrawal with dialysis staff for effective cramp management. Comprehension of pain assessment by nurses allows healthcare practitioners to modify dialysis schedules to alleviate weariness. The results of the aforementioned study [16] elucidate that nurses' comprehension of pain through the evaluation of signs and symptoms, including weariness, cramping, itching, and despair, is crucial for assessing patient pain.

The study findings underscore the inadequacy of nurses' understanding concerning pain medication delivery. The investigation indicated that nurses' understanding of pain management stems from self-directed learning initiatives. The majority of nurses indicated a lack of information or training regarding methods for managing patient pain before to or during dialysis. No orientation was offered for nurses administering medication in dialysis units upon commencement of their employment. The results of this study are corroborated by [17], who recognized the significance of nurses' contributions to pain treatment. Instruction on medication administration is crucial to provide nurses with the requisite information for employing a pharmacological strategy in treating pain for patients undergoing MHD. The findings of the present study are corroborated by a prior study [12], which demonstrates that educational programs enhance knowledge for non-pharmacological pain management.

The analysis results suggest that protocols and policies for pain assessment and management must be instituted at the unit, and nurses in the HDU require refresher courses on these protocols to enhance their understanding of pain assessment and management. Consequently, newly hired or transferred

nurses to the HDU should receive training on the relevant protocols and procedures [18]. Corroborate these findings, asserting that the implementation of a protocol for prompt pain assessment and management enables nurses to prevent delays in pain treatment and enhances the quality of care.

The findings of the present study underscored the necessity for nurses to be trained in new evidence-based strategies for pain management in patients undergoing MHD. The findings reveal that nurses encounter difficulties in identifying evidence-based methods, including pharmacological and non-pharmacological therapies for pain management, to determine whether patients undergoing dialysis should get opioids [18]. Corroborated the findings of the present investigation by demonstrating that the evidence base for non-pharmacologic therapy encompasses dietary elements and mind-body behavioral interventions. Additionally, it is imperative to educate nurses on evidence-based pain management strategies to enhance the quality of care and patient outcomes. Additionally, training nurses in evidence-based pain management practices is crucial for enhancing health-related quality of care and patient outcomes. The training of nurses in Hemodialysis Units is crucial for enhancing their knowledge in selecting optimal pain management strategies and fostering awareness of the effective application of nonpharmacologic methods to mitigate medication side effects [19].

The disparity between patient-centered pain management and inadequate practices in dialysis units remains a significant challenge for healthcare professionals responsible for pain management. This requires the implementation of pain management guidelines grounded in evidence-based practices. The study participants demonstrated awareness of their concerns regarding pain management comprehension and proposed potential educational strategies. This knowledge must be applied in practice. The American Pain Society Quality of Care Committee recommended that pain education should "move beyond traditional educational and advocacy to focus on increasing pain's visibility in the clinical environment" [20] (p. 1874). Translating the knowledge and experiences of participant nurses into practice is expected to enhance pain education and intervention.

The assessment and management of pain in patients undergoing hemodialysis involves a multifaceted approach among nurses, patients, nephrologists, healthcare professionals, and institutions. It is crucial to maintain a balance between effective pain management for patients and the responsibilities of nurses in administering pain medication within clinical settings. Developing a comprehensive pain management policy for nurses in dialysis units, supported by education, training, and clear communication among healthcare team members, is essential. Additionally, enhancing policymaking is necessary to improve the quality of pain management care for patients.

## Limitation

The selection of participants from four HDUs may restrict the transferability and generalizability of the findings. This study involved a sample of nurses from a single teaching hospital, the only one in the country, thus limiting the generalizability of the findings. Similarly, the questionnaires were administered face-to-face; however, self-reporting is frequently utilized in research studies, and participants may have sought answers from external sources. The assumption that respondents lacked knowledge of the answers may have been erroneous. Cultural influences may have impacted nurses' knowledge and attitudes regarding pain management, yet this aspect was not examined.

### Implication to Clinical Practice

Nurses in this study recognized that HDU nurses do not possess adequate pain assessment

and management skills for patients undergoing MHD. HDU nurses must employ suitable non-pharmacological interventions to ensure safe practice. The effectiveness of these interventions should be evaluated by reassessing pain through quality improvement initiatives during maintenance HD sessions. Furthermore, there was a clear deficiency in established practice guidelines regarding narcotics administration, pain assessments, documentation of pain management, nonpharmacological approaches to pain management and assessment, as well as follow-up care. Nurses must be educated on the narcotics prescribed for patients undergoing MHD. Educational programs must encompass pharmacological effects, appropriate dosing, and routes of administration.

The development of pain evaluation protocols is necessary, grounded in international clinical standards, established procedures, and credible scientific evidence. A collaborative team comprising physicians, nurses, psychologists, social workers, and supervisors is required to formulate and present recommendations to regulatory agencies concerning pain management interventions. Healthcare professionals in hemodialysis units should organize and implement educational programs at regular intervals to facilitate the identification and assessment of self-efficacy in pain management among patients undergoing hemodialysis.

## Recommendation

Nurses are required to inform patients about the risk factors linked to prescribed analgesics and the prevalent signs and symptoms they might encounter. For instance, respiratory distress and alterations in mental status must be recorded if they are present prior to initiating a hemodialysis session. It may also be advisable to educate the patient's family members to report any occurrences of respiratory distress or changes in mental status.

Nurses must document any prior opioid therapy and any history of adverse effects. Tailoring patient care plans is essential to guarantee that patients receive safe and high-quality care during hemodialysis sessions.

A prevalent concern among hemodialysis nurses is the potential buildup or extraction of opioid medications during dialysis. To mitigate this concern, educational programs must encompass the pharmacological effects, appropriate dosing and administration routes, as well as strategies for identifying patients at risk for adverse effects during hemodialysis. Nurses, both novice and experienced, ought to engage in competency-based theoretical and practical education regarding opioid therapy.

Pain management quality improvement should focus on assessing pain every shift, administering pain medicine quickly, and reassessing pain to determine drug efficacy. Nurse education could potentially enhance pain management.

## Conclusion

This study addresses a significant gap in the literature regarding healthcare delivery in The Gambia. Nurses exhibit insufficient knowledge regarding pain management, highlighting the necessity for prompt and effective educational initiatives in this domain. Pain management remains a significant challenge in healthcare facilities in The Gambia. This research has identified critical areas, particularly in pharmacology, where nurses exhibit a lack of knowledge and require assistance. Continuing education opportunities significantly enhance patient care outcomes.

Moreover, the current research findings highlight the significant role of nurses in pain management within HDU, alongside the challenges and barriers they face. The findings from the study indicate that, alongside patients' pain expressions, clinical assessments are essential for addressing barriers related to self-reporting of pain. Our findings highlight several issues that nurses encounter in managing

patients' pain, including the uncertain effects of narcotics on individuals with kidney dysfunction and the impact of the hemodialysis process on the elimination of medication from the bloodstream. A brief educational strategy was identified to aid nurses in the effective management of pain.

## Ethics Approval and Consent to Participate

This study has been approved by Research Ethics Committee (REC).

Edward Francis Small Teaching Hospital before the data collection (EFSTH_REC_2024_075).

## Availability of Data and Materials

The data supporting the findings of the article are available within the article.


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None.


## Conflict of Interest

The authors declare no conflict of interest, financial or otherwise.


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## Authors Contributions

**Lamin Camara**: contributed to the conception of the research idea, design data analysis and interpretation, paper drafting and revision.

**Ousman Jammeh:** Supervision, and editing.

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