

# Example of research proposal on pain management in hemodialysis patients

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## **Background**

Hemodialysis is one of the most effective treatments or therapies administered for patients with either an acute or chronic renal problem. This renal therapy is most commonly administered to patients who have primary renal failure and secondary renal failure due to another condition such as cancer or a blood infection. The objective of a hemodialysis treatment is to extract and dispose waste products such as urea and mineral ions from the patient's bloodstream to avoid the complications and morbidities that will surely come as a result of a bilateral kidney failure.

Technically, the hemodialysis machine does the job of the kidney. That is, to filter any impurities from the blood and excrete it as waste products via the excretory or urinary system. However, since renal failure patients' kidneys are theoretically in an " unusable" state, it is inevitable for the patient to undergo hemodialysis therapies based on several factors like the pathology affecting him, the proposed duration of the dialysis treatment, etc. The objective of this paper is to present a research gap present in a standard hemodialysis treatment, identify a specific problem that can be solved or resolved by research which can be achieved by conducting a thorough review of related literatures.

## **Research Problem**

The first dialysis treatment was conducted to a human on the 28th of February year 1924 (Paskalev, 2001). Ever since, healthcare administrators and medical professionals have not been very aware of what the patient really feels whenever they undergo a hemodialysis treatment. Pain, blood

infection or sepsis, blood coagulation problems, limb paralysis or numbness, and even sudden death are some of problems encountered by the hemodialysis community ever since the theory that extracorporeal excretion of human waste products can be done by the process of diffusing continuously-flowing solutes together with the accompanying liquids across a semipermeable membrane was first introduced. Due to the influence of the digital revolution towards healthcare and medical practice, the tools and equipment used for such procedures were significantly improved. This technological factor was actually one of the main reasons why the prevalence rate of sepsis and the First Use Syndrome among hemodialysis patients have been statistically reduced. The risks of fatal blood coagulation problems were also greatly reduced due to the invention of the Atrio-ventricular fistula. Limb paralysis and numbness on the other hand were not addressed until the first tunneled and non-tunneled Central Venous Catheters were introduced and used. The only problem that has not received the attention that the other ones have received so far is the pain that arises during, after, and before another hemodialysis treatment. This leads us to the Pain Management problem in Hemodialysis Patients.

Pain can make patients alarmed and even uncooperative to treatments. It decreases their willingness to undergo a certain treatment. All of these would surely lead to poorer patient and treatment outcomes—the exact opposite of a medical practitioner’s goal which is to help the patient return to his premorbid status. Upon doing a thorough search of existing literatures about a standardized pain management in hemodialysis patients, the researchers have noticed that very little to no literature have tried to

conduct an intensive research about the topic. There is actually no standardized protocols present specific to managing pain and other discomforts experienced by patients during a hemodialysis treatment.

## **Review of Related Literature**

In a qualitative study conducted by Bourbonnais & Tousignant (2012) about the pain experiences of patients undergoing maintenance hemodialysis, they tried to identify and describe the different types of pain experienced by patients who met their inclusion criteria. They also tried to observe how nephrology nurses try to manage their patients' pain. To obtain non-biased results, the researchers tried to verify whether the hemodialysis patients are following the pain management instructions provided by the nurse and if they were using other pain management strategies aside from the ones that were taught to them. They were able to review the patient data of and conduct several interview sessions with 25 outpatient hemodialysis patients. After synthesizing the results, they discovered that physical pain such as joint pain is only one part of the story. The patients reported other discomforts brought about by their immobility, social and also emotional pain. It was also discovered that the patients have used analgesics and NSAIDS (Nonsteroidal Anti-Inflammatory Drugs) to relieve the physical pain. The researchers stated that further research is warranted to identify possible strategies that can facilitate such discomforts.

In Karanikolas et al.'s (2010) study, the objective was to measure the effectiveness of a fentanyl-based opioid analgesic drug in relieving the neuropathic and ischemic types of pain that patients usually experience

during and after a hemodialysis treatment as well as before and after an amputation (secondary to renal failure) surgery. They were able to investigate the results of 16 patients. Karanikolas et al. (2010) concluded by stating that the IV Fentanyl PCA can be a safe and effective alternative drug for relieving severe pain in hemodialysis and amputation surgery patients. Zagajewska et al. (2010) conducted a joint study about the different types, locations, characteristics and management strategies of chronic pain that is typical among post-kidney transplant patients and chronic hemodialysis patients. The total sample size of 278 was comprised of 164 Hemodialysis patients and 114 Kidney Transplant patients (recipients). All 278 subjects were asked to answer one of the gold-standard questionnaires for pain, the McGill University Pain Questionnaire. Results have shown that 62 percent of the Kidney transplant recipient patients while 64 percent of the chronic hemodialysis patients experienced pain. The most common type of pain among all subjects was described as a local, chronic, and paroxysmal type of pain. These details have led the authors to the conclusion that successful kidney transplantations and hemodialysis treatment sessions do not automatically equate to a significant reduction in pain. Therefore, pain management through the use of pain medications is still encouraged. Rich et al. (2011) attempted to identify in their study which among the buttonhole and traditional method of Fistula Cannulation could decrease the prevalence of various discomforts, especially pain, in ambulatory hemodialysis patients. The researchers were able to gather 45 subjects who passed their inclusion criteria. In this study, the researchers tried to point out both the major and minor differences between the traditional and buttonhole

method used in hemodialysis. It has been stated in their paper that among all discomforts experienced by hemodialysis patients, needle stick pain, pre-needle stick anxiety, and aneurysmal discomforts are the most common. The authors, in their conclusion, supported the notion that the buttonhole method of Cannulation is the more effective one compared with the traditional method in terms of reducing the prevalence of pain and other common discomforts associated with hemodialysis treatments.

In Sabitha et al.'s (2008) study, they attempted to use a particular strategy, cryotherapy, instead of purely pain relieving drugs, to treat post-hemodialysis patients. The researchers were able to recruit a total of 60 subjects who met the inclusion criteria. The patients were analyzed and interviewed and both objective and subjective information about their sensations were recorded. In the end, the researchers concluded that cryotherapy is a safe and effective alternative for treating post-hemodialysis treatment pain.

All of these studies have something in common. They all propose a particular strategy in treating pain secondary to hemodialysis. What they have not done is to formulate a specific set of protocols that other healthcare practitioners can follow whenever treating a patient distressed by hemodialysis pain. A set of protocols is a more direct and objective way of addressing a specific healthcare problem. Different protocols are usually applied to patients with different conditions. Therefore, there is a need to formulate a specific set of protocols for pain management in hemodialysis patients. This can be a collection of all effective pain management strategies from all existing literatures about hemodialysis pain.

## **Relevance to the Nursing Practice**

There is a specific group of nurses who handle patients with kidney disorders. They are called nephrologic nurses. They play an important role in the field of healthcare because they are they are also the ones who assist patients whenever they go to hemodialysis clinics. Knowing that there are various discomforts that a patient may feel before, during, and after a hemodialysis session, he can identify and more effectively address issues such as needle pain, post hemodialysis pain, and other discomforts brought by such an intensive treatment.

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