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Nursing Care for Post PCNL Patients With Acute Pain Through Foot Massage in the Urology Surgery Room at General Ahmad Yani Metro Hospital

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ABSTRACT

Background & Objectives: Management of acute pain in post-operative PCNL (Percutaneous Nephrolithotomy) patients is essential to support optimal recovery and improve patients' quality of life. One effective non-pharmacological method to manage pain is foot massage therapy, which provides a relaxing effect and helps reduce pain intensity. This scientific work aims to describe nursing care using foot massage interventions in post-PCNL patients with complaints of acute pain. **Methods:** This research design is a case study, with the research subject being a patient who was treated in the urology surgery room at General Ahmad Yani Metro Hospital. Foot massage intervention was carried out for two consecutive days, each for 20 minutes each session. The techniques used included effleurage and petrissage movements on the patient's foot area, designed to relieve pain and improve blood circulation. **Results:** The results showed a decrease in pain intensity in patients after foot massage therapy, from scale 7 to scale 4 within 30 minutes post intervention. **Conclusion:** This effect shows that foot massage is effective in reducing acute pain in post-PCNL patients, so it can be recommended as a complementary pain management method.

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Introduction

Kidney stones are a medical condition characterized by the formation of hard crystals made of minerals and salts within the kidneys or urinary tract. This condition not only causes severe pain but can also lead to serious complications, such as infections and long-term kidney damage. For large or inaccessible stones, the Percutaneous Nephrolithotomy (PCNL) procedure is the primary treatment choice. This procedure is effective in removing stones with lower risk compared to open surgery; however, it often results in significant acute pain. If this pain is not managed properly, it can hinder the patient's recovery.

Post-PCNL pain is usually managed with pharmacological analgesics such as opioids or NSAIDs, which, despite being effective, are often accompanied by side effects such as nausea, constipation, and the risk of drug dependence. Therefore, non-pharmacological therapies such as foot massage present a promising alternative. This therapy involves massaging and stimulating reflex points on the feet, which has been proven to reduce pain intensity, improve blood circulation, and promote relaxation. Studies have shown that foot massage not only reduces the need for analgesics but also accelerates recovery and improves patients' emotional well-being.

RSUD Jenderal Ahmad Yani Metro has recorded a significant increase in kidney stone cases in recent years, underscoring the importance of effective post-PCNL pain management strategies. This research aims to evaluate the effectiveness of foot massage therapy as a method for managing acute pain in post-PCNL patients in the urology surgical ward of RSUD Jenderal Ahmad Yani Metro.

Objective

The aim of this case study is to understand the nursing care provided to post-PCNL patients experiencing acute pain through the application of foot massage therapy in the Urology Surgery Ward of RSUD Jenderal Ahmad Yani Metro.

Method

This is a descriptive research using a case study approach. The client in this case is Mr. J, a 47-year-old male diagnosed with kidney stones who underwent the PCNL procedure and experienced acute pain. The nursing process included assessment, diagnosis, intervention, implementation, and evaluation. Data were collected through interviews with the patient, direct observation of the application of foot massage, and patient responses during the monitoring period, all documented as part of nursing care.

Results

The implementation of foot massage therapy for a post-PCNL patient showed a gradual decrease in pain levels from the first to the third day of treatment. The patient, a 47-year-old man identified as Mr. J, was admitted to the urology surgery ward at RSUD Jenderal Ahmad Yani Metro after undergoing PCNL for kidney stones. He

reported acute postoperative pain with an initial pain score of 7 on the first day. After the first foot massage session, the pain score dropped to 5 within 30 minutes. The massage techniques used included effleurage and petrissage, targeting foot reflex points to relieve muscle tension and improve circulation.

On the second day, a 20-minute foot massage session further reduced the pain score from 5 to 4. The patient reported increased comfort and relaxation after the session. This therapy not only helped relieve physical pain but also provided emotional relaxation that supported recovery. On the third day, following the final session, the pain score decreased from 4 to 3. The patient appeared calmer, showed no signs of pain on his face, and began to move more actively without excessive worry.

The consistent decrease in pain levels over three days indicates that foot massage therapy is significantly effective in reducing pain intensity in post-PCNL patients. Additionally, the patient reported that the therapy sessions provided a sense of relaxation that aided in recovery. These results reinforce the relevance of foot massage as a safe and effective non-pharmacological pain management method, which can be incorporated into routine nursing care in hospitals.

Anxiety Management

Anxiety was one of the main issues experienced by Mr. J after the PCNL procedure. This anxiety stemmed from multiple factors, including fear of complications, uncertainty about recovery, and ongoing pain. Fear of complications such as infection, kidney failure, or recurrence of kidney stones was a major trigger. According to Kiecolt-Glaser et al. (2019), excessive worry about medical conditions can worsen anxiety, negatively affecting the healing process. Prolonged pain also contributes to anxiety, as patients worry about its duration and severity.

Uncontrolled anxiety can have negative effects on both physical and emotional recovery. Increased stress hormones like cortisol can delay wound healing and reduce the body's ability to fight infection. Hoffman et al. (2018) noted that high levels of stress hormones during the postoperative period can extend hospital stays and worsen patients' physical condition. Anxiety also disrupts sleep quality, which is essential for recovery. Patients with anxiety often experience sleep disturbances, reducing energy levels and slowing the healing process

To manage anxiety, foot massage was used as an effective non-pharmacological intervention. This technique stimulates foot reflex points connected to the central nervous system and other organs, promoting relaxation. Lee et al. (2019) found that foot massage reduced anxiety in postoperative patients by stimulating the release of endorphins and other relaxation hormones. Moreover, foot massage decreases sympathetic nervous system activity, which is responsible for the “fight or flight” response that commonly triggers postoperative anxiety.

Nausea Management

Nausea was another key issue experienced by Mr. J post-surgery. It was primarily triggered by psychological factors such as postoperative anxiety, which often worsens gastrointestinal symptoms. In addition, anesthesia side effects may

contribute to postoperative nausea. McCracken et al. (2018) stated that anxiety increases stomach acid production and causes gastrointestinal discomfort, leading to nausea. Mr. J also experienced reduced appetite, further exacerbating his discomfort due to lack of nutrition needed for recovery.

Nausea significantly impacted the recovery process. Patients experiencing persistent nausea tend to avoid food and drinks, which can lead to dehydration and malnutrition. Dehydration disrupts electrolyte balance, while malnutrition slows wound healing. Hoffman et al. (2018) noted that stress hormones triggered by anxiety can worsen nausea and hinder physical recovery. Uncontrolled nausea also affects mood and quality of life, creating a cycle of ongoing discomfort and anxiety.

To manage nausea, foot massage was used to stimulate reflex points related to the digestive system and central nervous system. Kim et al. (2019) found that stimulating specific foot reflex points helps relieve nausea by promoting intestinal peristalsis and reducing stomach acid production. Foot massage also provided relaxation, helping to alleviate anxiety that exacerbates Mr. J's nausea. This therapy was combined with deep breathing techniques to calm the nervous system and reduce the sympathetic response that often triggers nausea. According to Pavlin et al. (2017), deep breathing can significantly reduce nausea symptoms in postoperative patients.

Discussion

This study focused on the effectiveness of foot massage therapy as a non-pharmacological method to reduce acute pain in post-PCNL patients. The results demonstrated a significant reduction in pain intensity over three days of treatment. This decline highlights the substantial impact of foot massage in managing pain while enhancing patient comfort and relaxation during recovery.

These findings are consistent with previous studies. Research by Lee et al. (2019) showed that foot massage effectively reduces pain levels in postoperative patients in a short time. Another study by Kim et al. (2018) found that foot massage improves emotional well-being and reduces postoperative anxiety. Additionally, Yuniwati (2019) reported that foot massage effectively alleviated pain in post-cesarean section patients. These studies support the use of foot massage as a relevant and effective pain management method across various patient populations.

Foot massage therapy has several advantages. Firstly, it is a non-invasive technique that is easy to administer and relatively inexpensive, making it suitable for integration into routine nursing care. Secondly, the use of standardized techniques such as effleurage and petrissage ensures consistency and reliability in therapy outcomes. Moreover, foot massage offers additional benefits such as improved circulation, endorphin release, and accelerated recovery.

For Mr. J, anxiety was a major nursing diagnosis caused by fear of surgical failure and recovery. Nursing interventions began with observing signs of anxiety such as restlessness, muscle tension, increased pulse, and high blood pressure. Identifying the

causes of anxiety helped the care team address the patient's psychological condition effectively.

To reduce anxiety, a calm and therapeutic environment was created. Nurses employed supportive communication to provide reassurance and boost the patient's confidence in the treatment process. Regular foot massage sessions helped relieve anxiety, relax muscles, and improve circulation. This therapy also enhanced the patient's sleep quality, a key element of recovery.

Education was essential in anxiety management, with patients receiving clear information about their diagnosis and treatment procedures. A better understanding of their condition helped reduce uncertainty and improved the patient's preparedness for recovery. If non-pharmacological methods were insufficient, collaboration with the medical team ensured the controlled use of anti-anxiety medications to avoid side effects. A combination of therapeutic interventions, education, and pharmacological support was used to gradually reduce patient anxiety.

Nausea, or nausea, was also a primary nursing problem in Mr. J's case. Interventions began by observing symptoms, including frequency, triggers, and effects on appetite and comfort. Physical signs such as frequent swallowing, pallor, and excessive sweating were monitored to prevent further complications like nutritional and hydration imbalances.

Nausea management included dietary regulation, offering small but frequent meals with foods that were easy to digest and low in fat and acidity. Patients were educated on the importance of fluid intake to prevent dehydration, especially when appetite was low. Non-pharmacological interventions like foot massage were used to stimulate reflex points linked to digestion and enhance patient relaxation. Deep breathing techniques were also taught to manage nausea caused by stress or anxiety. If nausea persisted, anti-nausea medications were administered under medical supervision. A combination of dietary management, relaxation techniques, education, and pharmacological interventions ensured effective nausea control, promoting patient recovery.

Conclusion

This study demonstrates that foot massage therapy is effective in reducing pain intensity in post-PCNL patients. It also provides additional benefits such as increased comfort and relaxation, which contribute to faster recovery. Therefore, integrating this therapy into routine nursing practice could be a strategic step toward improving the quality of healthcare, especially in postoperative pain management. Despite certain limitations, this study lays a foundation for further research to explore the long-term benefits of foot massage therapy across different patient populations.

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