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Application of P6 Acupressure for Nausea Management in Hemodialysis Patients: A Descriptive Case Series

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ABSTRACT
Background: Stage 5 Chronic Kidney Disease (CKD) represents a progressive and irreversible decline in renal function, requiring life-long renal replacement therapy such as hemodialysis. A common complication frequently experienced by patients undergoing hemodialysis is nausea, resulting from the accumulation of uremic toxins or the dialysis process itself. Pharmacological management of nausea can cause long-term side effects, necessitating safe and effective non-pharmacological alternatives, such as acupressure therapy at the P6 (Neiguan) point.
Methods: This descriptive case study was conducted at RSUD. Dr.Kanujoso Djatiwibowo Balikpapan from July 2026 to August 2026. Three participants who met the inclusion criteria were enrolled. The intervention consisted of P6 acupressure applied three times a day for 3 days. Nausea outcomes were measured using the Visual Analogue Scale(VAS) before and after the intervention. Institutional permission to conduct the study was obtained from RSUD. Dr.Kanujoso Djatiwibowo Balikpapan. Additionally, ethical approval was granted by the Ethics Committee of RSUD. Dr.Kanujoso Djatiwibowo Balikpapan Approval No.400.14.5.4/0267/10/RSKD/VIII-2026. Prior to participation, written informed consent was obtained from all three individual participants after a brief explanation of the study procedures.
Results: Reductions in nausea severity were observed across all three participants post-intervention. All three patients showed a decrease in nausea intensity: Mr. M decreased from 7 to 3, Mr. Y from 6 to 2, and Mrs. P from 8 to 4. The overall mean VAS score reduction for the group was 4 points
Conclusion: The descriptive findings suggest a positive trend in nausea reduction following P6 acupressure. While definitive treatment efficacy cannot be established due to the descriptive case-study design, P6 acupressure shows potential as a safe, low-cost complementary nursing intervention for managing nausea in hemodialysis settings.

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INTRODUCTION

Chronic kidney disease (CKD) is defined by abnormalities of kidney structure or function present for at least three months and is classified by cause, glomerular filtration rate, and

albuminuria. Advanced CKD may require kidney replacement therapy, including hemodialysis. Contemporary guidelines emphasize individualized assessment, management of complications, and shared decision-making (Levin et al., 2024). The global burden of CKD has increased substantially, supporting the need for symptom-focused care alongside disease-directed treatment (GBD 2023 Chronic Kidney Disease Collaborators, 2025; Bikbov et al., 2020).

Nausea can reduce comfort and interfere with the experience of hemodialysis. Nausea and vomiting are common complication of during hemodialysis, which leads to unpleasant feeling in patients (Asgari et al., 2017). Symptoms may be multifactorial and may relate to uremic burden, intradialytic hemodynamic changes, medications, food intake, and psychological distress. Symptom assessment should therefore be integrated with clinical evaluation, and persistent or severe symptoms require assessment of potential underlying contributors (Flythe etal., 2018).

P6 (also called PC6 or Neiguan) is located on the anterior forearm, approximately two to three finger breadths proximal to the wrist crease between the tendons. Stimulation of this point has been studied for nausea in several clinical contexts. Reviews and trials have evaluated acupressure for chemotherapy-related nausea, pregnancy-related nausea, and postoperative nausea and vomiting (Alhusamiah et al., 2024; Xiao et al., 2023; Mohd Nafiah et al., 2022; Wang et al., 2024; Gong, et al., 2024; Lee et al., 2025). Individual randomized trials have reported mixed results, underscoring the importance of clinical context and comparator treatment (Ünülü & Kaya, 2018; Afshar et al., 2023; Woodward et al., 2024). These studies provide indirect evidence only and do not establish effectiveness in hemodialysis patients specifically. Evidence on non-pharmacological symptom management in dialysis includes reflexology, but this is a different intervention and should not be treated as direct evidence for P6 acupressure (Naseri-Salahshour et al., 2019).

The clinical case records underlying this report describe three patients with stage 5 CKD undergoing hemodialysis at RSUD Dr. Kanujoso Djatiwibowo, Balikpapan, who received P6 acupressure as part of nursing care. The objective of this article is to describe the observed change in nausea intensity before and after the intervention and to discuss the implications and limitations of these case observations.

METHODS

Design and Setting

This study used a descriptive case-study approach to analyze the application of P6 acupressure within nursing care for stage 5 CKD patients undergoing hemodialysis. The evidence-based nursing practice was implemented in the Hemodialysis Unit of RSUD Dr. Kanujoso Djatiwibowo Balikpapan during July 2026 to August 2026.

Participant

The participants were recruited from patients with stage 5 chronic kidney disease undergoing hemodialysis at RSUD Dr. Kanujoso Djatiwibowo Balikpapan, Indonesia. Eligible patients were identified based on predefined inclusion and exclusion criteria through an assessment of their clinical condition and the presence of nausea. Three patients were included in this case study using purposive sampling, based on their eligibility and suitability for the application of the P6 (Neiguan) acupressure intervention. The inclusion of these three cases was intended to provide a focused evaluation of changes in nausea scores before and after the intervention in patients undergoing hemodialysis. The small number of participants is consistent with the case-based nature of this study, which emphasizes an in-depth description of nursing care and the observed responses to the intervention rather than statistical generalization. Therefore, the findings should be interpreted within the context of the three cases and should not be generalized to the broader population of patients undergoing hemodialysis.

Intervention and measurement

The P6 acupressure intervention followed a standardized protocol to ensure reproducibility. The intervention was repeated over a consecutive three-day period in accordance with the standards.. For each participant, the intervention consisted of three times a day for 3 days, performed 1 hour after the initiation of hemodialysis. The acupressure was applied to the

P6 (Neiguan) point using the thumb or index finger on the P6 point, located 2–3 fingers below the inner wrist crease, for 3–5 minutes. To ensure accurate monitoring of this duration, the researcher utilized a digital stopwatch to track the exact time of pressure application. Nausea severity was assessed at specific time points: immediately before the application of pressure (pre-intervention baseline) and exactly 30 minutes post-intervention using the nausea scale.

Data analysis

Nausea severity was assessed using the Visual Analog Scale (VAS) before the initiation of P6 (Neiguan) acupressure and reassessed on the third day after completion of the three-day intervention period. The pre-intervention assessment served as the baseline measurement, while the post-intervention assessment was used to evaluate changes in nausea severity following the intervention. The VAS scores obtained at these two time points were compared for each of the three patients with stage 5 chronic kidney disease undergoing hemodialysis. The assessment schedule represented a baseline and end-of-intervention evaluation; daily VAS measurements were not included in the reported outcome data. Therefore, the results reflect changes between baseline and the end of the intervention rather than the day-by-day trajectory of nausea severity. The intervention was administered over three consecutive days to three patients with stage 5 chronic kidney disease undergoing hemodialysis. The VAS scores obtained before the intervention and on the third day after the intervention were compared to evaluate changes in nausea severity.

Ethical considerations

This study was conducted in accordance with the Declaration of Helsinki. Ethical approval was granted by the Health Research Ethics Committee of RSUD. Dr.Kanujoso Djatiwibowo Balikpapan Approval No.400.14.5.4/0267/10/RSKD/VIII-2026, and institutional permission was obtained from Hemodialysis Department of RSUD. Dr.Kanujoso Djatiwibowo Balikpapan and ITKES Wiyata Husada Samarinda. Prior to the study, written informed consent was obtained from all three participants, which included explicit consent for the publication of their de-identified clinical details. To maintain strict confidentiality, all personal identifiers were removed.

RESULTS

Three patients had been undergoing maintenance hemodialysis for 1 to 3 years with a frequency of twice weekly, 4 hours per session. Potential factors contributing to their nausea included uremic toxin accumulation, intra-dialytic hypotension, or concurrent medication use, while patients with acute gastrointestinal diseases were excluded. Nausea assessments and the P6 acupressure intervention were strictly timed relative to the hemodialysis sessions. Baseline nausea scores were assessed 30 minutes before the initiation of the hemodialysis session. The P6 acupressure intervention was then applied 1 hour into the dialysis session or when nausea symptoms typically onset. Post intervention nausea scores were evaluated immediately after 3 days post dialysis.

Table 1. Nausea intensity before and after P6 acupressure

Patient	Age (years)	Pre-intervention VAS	Pos-intervention VAS
Tn. M	52	7	3
Tn. Y	50	6	2
Ny. P	60	8	4

Nausea scores decreased for all three patients from pre to post observation. Individually, Mr.M showed a change from 7 to 3, Tn.Y from 6 to 2, and Ny.P from 8 to 4, resulting in an overall mean reduction of 4 points. While these descriptive pre-post changes indicate an improvement in the observed scores, the lack of a control group and inferential statistical analysis limits our ability to attribute these reductions directly to a treatment effect. Due to the small sample size and the case-study design, these findings should be interpreted as descriptive observations rather than definitive evidence of clinical efficacy.

Table 2. Descriptive response to the intervention

Patient	Reduction (point)	Clinical response
Tn. M	4	Less epigastric nausea; more relaxed; reduced salivation
Tn. Y	4	Reduced urge to vomit; able to continue hemodialysis more comfortably
Ny. P	4	Nausea reduced from severe to mild; comfort improved

Nausea severity was assessed using the Visual Analog Scale (VAS) before the initiation of P6 (Neiguan) acupressure and reassessed on the third day after completion of the three-day intervention period. The pre-intervention assessment served as the baseline measurement, while the post-intervention assessment was used to evaluate changes in nausea severity following the intervention. The VAS scores obtained at these two time points were compared for each of the three patients with stage 5 chronic kidney disease undergoing hemodialysis. The assessment schedule represented a baseline and end-of-intervention evaluation; daily VAS measurements were not included in the reported outcome data. Therefore, the results reflect changes between baseline and the end of the intervention rather than the day-by-day trajectory of nausea severity.

DISCUSSION

The main finding of this case study was a consistent four-point reduction in nausea intensity in all three patients after the application of P6 acupressure within a broader nursing-management plan. Tn. M decreased from 7 to 3, Tn. Y from 6 to 2, and Ny. P from 8 to 4. The source document likewise reports improved comfort and relaxation following the intervention.

Nausea in patients with stage 5 chronic kidney disease undergoing hemodialysis may be associated with several clinical factors, including uremia and hemodynamic changes during dialysis. The accumulation of uremic toxins due to impaired renal function may contribute to gastrointestinal symptoms, including nausea. In addition, ultrafiltration-related fluid removal may contribute to intradialytic hypotension, particularly when the rate of fluid removal exceeds the patient's cardiovascular compensatory capacity. Such hemodynamic changes may be accompanied by symptoms such as nausea, dizziness, and weakness. However, these mechanisms should be interpreted as possible explanations rather than established causes in the present cases, as serum urea levels, ultrafiltration rates, and intradialytic blood pressure changes were not specifically analyzed in relation to nausea severity. Therefore, the observed reduction in nausea scores following P6 (Neiguan) acupressure cannot be explained solely by changes in uremia or hemodynamic status. Other clinical factors and concurrent nursing or pharmacological interventions may also have contributed to the observed changes. Future studies should incorporate relevant clinical parameters and appropriate literature-based comparisons to better understand the potential mechanisms underlying nausea and the response to P6 acupressure in patients undergoing hemodialysis.

P6 acupressure may be clinically useful because it is non-invasive and can be incorporated into nursing care without replacing standard medical treatment. The KIAN describes the intervention as stimulation of the P6 point intended to influence nausea-related neural pathways and promote relaxation. The intervention was also integrated with positioning, breathing relaxation, fluid management, and pharmacological collaboration when clinically indicated.

The response of Ny. P is particularly important for interpretation. Although her nausea decreased from 8 to 4, she still had residual symptoms. Her high urea and creatinine levels and severe clinical presentation suggest that acupressure should be regarded as a complementary intervention rather than a substitute for correction of underlying uremia and appropriate medical management. The KIAN similarly notes that patients with severe uremia may require a more comprehensive approach, including pharmacological collaboration.

The finding is broadly compatible with research examining P6 stimulation for nausea in other populations. A systematic review of P6 and auricular acupressure in chemotherapy-induced

nausea and vomiting reported that acupressure has been studied as a complementary intervention, while a randomized trial evaluated P6 wristband use in hyperemesis gravidarum (Alhusamiah et al., 2024; Mohd Nafiah et al., 2022). Evidence from these populations is indirect and should not be treated as proof of benefit in CKD or during hemodialysis. Similarly, evidence concerning postoperative nausea is clinically distinct from nausea associated with uremia or dialysis-related hemodynamic changes (Lee et al., 2025).

The broader CKD literature also highlights the substantial global burden of kidney disease and the importance of person-centred symptom management and quality of life in dialysis care (Bikbov et al., 2020; Brown, et al., 2019; National Kidney Foundation, 2020; Saran, et al., 2020; Webster et al., 2017; GBD 2023 Chronic Kidney Disease Collaborators, 2025). Evidence for acupressure in other populations remains indirect for this case series, including trials and reviews in pregnancy and perioperative care (Gong, et al., 2024; Mohd Nafiah, et al., 2022; Wang, et al., 2024; Yılmaz et al., 2023; Ünülü & Kaya, 2018; Woodward et al., 2024), as well as chemotherapy-associated symptoms (Alhusamiah et al., 2024; Xiao et al., 2023) and other acute-care populations (Afshar et al., 2023).

LIMITATIONS

This study has several limitations. First, the study involved only three patients with stage 5 chronic kidney disease undergoing hemodialysis, limiting the generalizability of the findings to the broader hemodialysis population. Second, the absence of a comparison group makes it difficult to determine whether the observed reductions in nausea scores were specifically attributable to P6 (Neiguan) acupressure.

Third, concurrent nursing care and pharmacological treatments may have influenced nausea severity during the intervention period. Fourth, nausea may naturally fluctuate during hemodialysis due to changes in clinical conditions and other contributing factors, which may have affected the observed outcomes. Fifth, the absence of post-intervention follow-up prevented assessment of whether the reduction in nausea was sustained beyond the three-day intervention period.

Therefore, the observed changes should be interpreted cautiously and cannot establish a causal relationship between P6 acupressure and nausea reduction. Future studies should include larger samples, comparison groups, systematic documentation of concurrent interventions and medications, repeated outcome measurements, and longer follow-up periods to provide stronger evidence regarding the effectiveness and durability of P6 acupressure in reducing nausea among patients undergoing hemodialysis.

CONCLUSION

This descriptive case study outlines a positive trend in nausea score reductions among three hemodialysis patients following the P6 acupressure intervention. While these preliminary findings cannot establish definitive treatment efficacy due to the limited sample size and lack of a control group, they suggest that P6 acupressure may serve as a safe, non-invasive, and low-cost complementary nursing intervention in hemodialysis settings. Pragmatically, renal nurses can consider integrating P6 acupressure into routine care as an additional supportive measure to help manage intra-dialytic nausea and improve patient comfort. However, larger controlled trials are warranted to validate these clinical observations before broad recommendations can be implemented.

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