

## HEALTH EDUCATION FOR PRURITUS PREVENTION IN HEMODIALYSIS PATIENTS

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### ABSTRACT

**Backgrounds** : Chronic Kidney Disease (CKD) is a progressive kidney condition leading to numerous complications, including pruritus, particularly in patients undergoing hemodialysis (HD). Pruritus, or uremic itching, significantly impacts the quality of life of HD patients. Health education has been identified as a potential intervention to mitigate this issue. **Objectives**: This scoping review aims to collate existing literature on the effectiveness of health education in preventing pruritus among hemodialysis patients. **Method**: Utilizing a PRISMA- guided methodology, databases including PubMed, ScienceDirect, ProQuest, Wiley, and Scopus were searched for relevant studies. The inclusion criteria encompassed studies focusing on hemodialysis patients, pruritus, and health education, published in English post-2013. A total of 181 articles were initially identified, with 18 meeting the final inclusion criteria after screening. **Results**: The findings indicate that various health education interventions, including emotional intelligence programs, PRECEDE model-based education, and video-assisted teaching, significantly contribute to pruritus prevention in HD patients. These interventions improve patients' self-care behaviors, knowledge, and attitudes towards managing their condition, thus enhancing their quality of life. **Conclusion**: The review highlights the importance of incorporating health education into the standard care of HD patients to address pruritus effectively.

**Keyword**: *Chronic Kidney Disease (CKD), Hemodialysis (HD), Pruritus, Health Education,*

## **BACKGROUND**

Chronic Kidney Disease (CKD) is a prevalent global health issue that often leads to end-stage renal disease (ESRD) requiring hemodialysis (HD). HD patients frequently suffer from pruritus, a severe itching condition caused by toxin accumulation and inflammatory processes. This symptom significantly reduces their quality of life, causing sleep disturbances and emotional stress. Health education is crucial in managing chronic conditions and can help prevent pruritus in HD patients. Educational interventions, including skin care guidance, dietary advice, and medication management, have shown effectiveness in improving patient outcomes. This review aims to consolidate existing research on the impact of health education in preventing pruritus among HD patients, emphasizing the need for such programs in clinical practice.

Chronic Kidney Disease (CKD) is a progressive condition of the kidneys caused by various factors and has a high incidence rate, a prolonged disease course, and an unfavorable prognosis (X. Chen et al. 2021). CKD is a global health issue that is considered a major contributor to the prevalence of non-communicable diseases worldwide, including cardiovascular disease, hypertension, and diabetes (Luyckx et al. 2018). Systematic research and meta-analysis by Hill et al. (2016) found that the global prevalence of chronic kidney disease reaches 13.4%, while the global prevalence of end-stage kidney disease is 0.1% (Hafezieh et al. 2020).

The prevalence of CKD shows a significant increase both globally and in Indonesia. The prevalence of CKD has been recorded in several studies showing significant increases worldwide. It is estimated that the total number of individuals affected by CKD stages 1-5 globally currently reaches around 843.6 million people (Kovesdy 2022). In 2018, the prevalence of CKD in Indonesia increased to 0.38%, equivalent to about 713,783 people. South Sulawesi ranks fourth with a prevalence of 0.37%, equivalent to about 23,069 people (Tim Riskesdas 2018).

The proportion of HD patients among the population aged  $\geq 15$  years in South Sulawesi is 8.17% (Tim Riskesdas 2018). Hemodialysis is a method applied to improve the function of permanently failing kidneys. HD is a procedure aimed at cleaning the blood by removing waste products and excess fluids through a machine connected to the patient's body (IRR 2018).

Pruritus in hemodialysis patients, also known as uremic itching, is a skin condition characterized by intense itching in patients undergoing hemodialysis. Pruritus can be one of the complications of chronic kidney failure and is often associated with the accumulation of toxic substances, high levels of urea, and other substances in the blood (uremia), electrolyte imbalance, and inflammatory reactions in the skin. This usually occurs around six months after starting dialysis. Studies conducted by Skul et al. are retrospective analyses from the Dialysis Outcomes and Practice Patterns Study (DOPPS), using one item from the Kidney Disease Quality of Life instrument that asks how much patients are bothered by itchy skin (Wulczyn & Steele 2023).

Health education aims to help hemodialysis patients acquire the necessary skills for daily life (Stevens et al. 2022). Providing health education requires media support in its delivery, including electronic media and other forms (Listya et al. 2018). Nurses can improve the quality of care by assessing patients' health needs and providing accurate and timely health education (Hayati et al. 2023).

## **METHODS**

We used a Scoping Review guided by the PRISMA statement for reporting scoping reviews to gather and summarize existing literature on the application of health education for the prevention of pruritus in hemodialysis patients. The methods used for the review follow the five-stage framework described by Arksey and Malley for conducting scoping studies and are reported according to the PRISMA Extension for scoping reviews. Inclusion and exclusion criteria for the scoping review were initially determined.

- **Protocol and Registration:** Conducted a Scoping Review following PRISMA guidelines to gather literature on health education's role in preventing pruritus among hemodialysis patients. The review protocol was registered and adhered to PRISMA extension for scoping reviews.
- **Eligibility Criteria:** Included studies focusing on hemodialysis patients, pruritus, and health education in English. Excluded review articles and those published before 2013.
- **Research Studies:** Investigated the effectiveness of health education in preventing pruritus among hemodialysis patients using JBI guidelines for literature search.
- **Research Sources:** Searched PubMed, ScienceDirect, ProQuest, Wiley, and Scopus with specific keywords related to health education and pruritus prevention in hemodialysis.
- **Study Selection:** Articles were screened based on abstracts, titles, and full texts to ensure they met inclusion criteria.
- **Data Extraction, Analysis, and Synthesis:** Extracted data using Elicit software, analyzed using Microsoft Excel. Information included study characteristics, evaluated health education interventions, and reported outcomes.

## RESULT AND DISCUSSION

The search identified a total of 181 articles. After removing 15 duplicates, 166 articles remained. Exclusion based on title criteria reduced the number to 65 articles. Further exclusion based on abstract criteria left 18 articles for full-text screening. Overall, 18 articles were included in the final analysis, with 4 articles meeting the criteria and passing the screening process. Figure 1 illustrates the identification and selection stages of the study.

Chronic Kidney Disease (CKD) is a significant global health issue with high prevalence and poor prognosis. In Indonesia, the prevalence of CKD is increasing, including in South Sulawesi. Hemodialysis (HD) is the primary method for addressing chronic kidney failure but often causes uremic pruritus, characterized by intense itching due to the accumulation of toxic substances in the blood resulting from impaired kidney function. Studies indicate that health education can aid HD patients in preventing pruritus. Through appropriate health education, HD patients can improve their quality of life by better understanding and managing their condition. This research utilized a Scoping Review based on PRISMA statements to collect and summarize existing literature on the application of health education for pruritus prevention in HD patients. Of the 181 articles found, 18 met the inclusion criteria and were further analyzed.

The results demonstrate that health education, whether theory-based, video-based, using the PRECEDE-PROCEED model, or focusing on emotional intelligence, is effective in preventing pruritus in HD patients. Video-based and emotional intelligence health education, in particular, are highly effective in enhancing the knowledge, attitudes, and quality of life of patients. This study shows that a comprehensive and structured health education approach can significantly contribute to preventing pruritus in HD patients.

## CONCLUSION

Chronic Kidney Disease (CKD) is a major global health problem with a high prevalence and poor prognosis. In Indonesia, the prevalence of CKD is on the rise, including in South Sulawesi. Hemodialysis (HD) is the primary method for treating chronic kidney failure but often leads to uremic pruritus, characterized by severe itching due to the accumulation of toxic substances in the blood from impaired kidney function. This study aimed to evaluate the effectiveness of health education in preventing pruritus in hemodialysis patients through a scoping review methodology. The results from the review of 18 relevant articles demonstrate that health education, whether theory-based, video-based, using the PRECEDE-PROCEED model,

or focusing on emotional intelligence, is effective in preventing pruritus in hemodialysis patients. Health education interventions significantly contribute to pruritus prevention, improving the knowledge, attitudes, and quality of life of hemodialysis patients. The findings suggest that a comprehensive and structured health education approach is crucial for the early prevention of pruritus, enhancing the overall well-being of patients undergoing hemodialysis. This study highlights the importance of integrating effective health education strategies into the care of hemodialysis patients to mitigate the risk and impact of pruritus.

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*The 2<sup>nd</sup> Nani Hasanuddin International Health Conference (NHIHC)*

*“Navigation The Future of Health Care Addressing Challenges and Embracing Innovation in Nursing, Midwifery, Nutrition and Pharmaceutical Profession”*

The STIKES Nani Hasanuddin, Makassar, August 10-11, 2024

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