Original Article

Self-Care of Pruritus Among Patients Undergoing Regular Hemodialysis Sessions

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ABSTRACT

Objective: To assess pruritus disorders among patients undergoing hemodialysis
Study Design: Descriptive cross-sectional study
Place and Duration of Study: This study was conducted at the Al-Hilla City Al-Imam Sadeq Teaching Hospital, Iraq, from 1st April 2026 to 30th June 2026.
Methodology: The study described specific phenomena of interest related to self-care knowledge deficit for pruritus disorders among patients undergoing regular hemodialysis sessions.
Results: Overall knowledge level of the participants was predominantly at a moderate level and most items achieved mean scores ranging from 1.50 to 1.63.
Conclusion: There is a huge knowledge deficit in patients' knowledge regarding the nature of skin changes and importance of professional skin care, which may lead to exacerbation of these conditions.
Key Words: Self-care, Hemodialysis, Pruritus.

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INTRODUCTION

Worldwide occurrence and prevalence of dermatologic diseases in dialysis patients Epidemiological studies demonstrate that at least one dermatological disorder develops in more than 70-90% of patients on long term hemodialysis during the course of their illness. Uremic pruritus alone has been reported to affect about 40 to 60% of hemodialysis patients worldwide, with prevalence differing by region, adequacy of dialysis and comorbid conditions. These skin diseases are not just cosmetic, they have been shown in large observational studies and registry-based analyses to be associated with increased sleep disturbance, depressive symptoms and even increased mortality risk among patients with severe pruritus.[1,2]

Skin changes in patients on hemodialysis cause psychological distress as well as physical discomfort. Visible findings such as hyperpigmentation, excoriations from scratching, vascular access scars, etc. can have a negative impact on body image and self-esteem. These changes may increase the feeling of stigma, social withdrawal and loss of personal identity, especially in younger patients and women. Research has shown a significant correlation between dermatological symptoms, depressive disorders, and decreased self- confidence among dialysis populations, emphasizing the link between physical appearance, mental health, and holistic well-being.[3]

Self-care is a critical component of chronic disease management and is especially important for patients on long-term hemodialysis. In ESRD, self-care refers to the patient's capacity to carry out activities to maintain health, manage symptoms, and prevent complications, including skin-related issues. Because of the chronic and demanding nature of hemodialysis, effective self-care practices such as treatment adherence, skin hygiene, and symptom monitoring are critical to minimizing morbidity and enhancing autonomy. It's very similar to Orem's Self-Care Deficit Nursing Theory which stresses supporting the patient to meet their self-care needs when illness limits independence.[4,5]

Participation in self-care activities has positive effects on physical and psychological outcomes in hemodialysis patients. Self-care management of skin symptoms is effective in reducing the intensity of

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pruritus and improving sleep quality and health related quality of life.[6]

METHODOLOGY

This descriptive cross-sectional study was conducted at Al-Hilla City Al-Imam Sadeq Teaching Hospital, Iraq from 1st April 2026 to 30th June 2026. A non - probability convenience sample method was selected to assign the participants who regular undergoing hemodialysis sessions. A total of 160 patients were selected to participate in the study out (165) of the patient's. patients who are scheduled for regular hemodialysis sessions. Ten of the participants were assigned to the pilot study and were subsequently excluded from the original study sample (150). The sample size has been determined by using Richard Geiger's equation. To achieve the study objectives, a specific questionnaire was prepared after an extensive review of related literature adopted by Mettang & Kremer.[7] Part I consist of the demographical characteristics of the study sample includes age, sex, educational level, marital status, occupation and residency). Part II include clinical information related to (duration on hemodialysis, frequency of hemodialysis session per week). Part III includes knowledge and Self-care of pruritus disorders. The part consists of multiple-choice questions distributed among three domains to assess the knowledge deficit related to self-care for cutaneous disorders among patients undergoing regular hemodialysis sessions. Distributed as the section consists of 27 items to assesses knowledge and self-care related to pruritus (itching). The data was analyzed through SPSS-26.

RESULTS

Table No. 1: Demographic information of the patients

Variable	No.	%
Age (years)		
<30	28	18.7
30-49	52	34.7
≥50	70	46.6
Gender		
Male	88	58.7
Female	62	41.3
Residency		
Urban	96	64.0
Rural	54	36.0
Educational state		
Illiterate	30	20.0
Read & Write	22	14.7
Primary	28	18.7
Secondary	35	23.3
College+	35	23.3
Occupation		
Working	57	38.0
Not working	93	62.0

Nearly half of the study samples (46.6%) were 50 years and above, 34.7% were within the age range of 30-49 years and only 18.7% were below 30 years (Table 1). Nearly half of the subjects in the study (45.3%) had undergone hemodialysis for 1-5 years, 33.3% had received dialysis for 6-10 years, and 21.4% had undergone dialysis for more than 10 years (Table 2). Pruritus is highly common among patients who are on regular hemodialysis sessions, 73.3% of the study sample reported presence of itching. The distribution of knowledge responses of the study sample on self-care deficit for pruritus among patients undergoing regular hemodialysis sessions were shown in Tables 3-5.

Table No. 2: Distributions of study samples related to their clinical data

Variable	No.	%
Duration of hemodialysis (Years)		
1–5	68	45.3
6–10	50	33.3
>10	32	21.4
Dialysis sessions/Week		
Twice	42	28.0
Three times	108	72.0

Table No. 3: Distributions of study sample responses regarding pruritus (assessment of itching)

Variable	No.	%
Presence of itchsing		
Yes	110	73.3
No	40	26.7
Severity		
Mild	55	36.7
Moderate–Severe	95	63.3
Location		
Whole body	80	53.3
Localized areas	70	46.7
Sleep disturbance		
Yes	90	60.0
No	60	40.0
Day comfort affected		
Mild	58	38.7
Moderate–Severe	92	61.3
Skin injury due to scratching		
Yes	88	58.7
No	62	41.3
Common sign		
Scratch marks	100	66.7
No visible signs	50	33.3
Severe pruritus sign		
Scarring	85	56.7
Other signs	65	43.3
Relation to dialysis		
Before session	98	65.3
After/Not related	52	34.7
Home environment		
Dry air	105	70.0
Humid/variable	45	30.0
Clothing type		
Synthetic/Wool	94	62.7
Cotton	56	37.3

Table No. 4: Distribution of study sample responses regarding pruritus (general information)

Item	Correct		Incorrect		Mean±SD	Level
	No.	%	No.	%		
Skin barrier	95	63.3	55	36.7	1.63±0.48	Fair
Causes of skin changes	30	20.0	120	80.0	1.20±0.49	Poor
Causes of pruritus	85	56.7	65	43.3	1.57±0.50	Fair
Complications of pruritus	80	53.3	70	46.7	1.53±0.50	fair
Management of pruritus	92	61.3	58	38.7	1.61±0.49	Fair
Daily bathing effect	78	52.0	72	48.0	1.52±0.50	Fair
Bathing frequency	82	54.7	68	45.3	1.55±0.50	Fair
Soap size	75	50.0	75	50.0	1.50±0.50	Fair
Soap type	88	58.7	62	41.3	1.59±0.49	Fair
Skin pH	84	56.0	66	44.0	1.56±0.50	Fair
Overall Knowledge	889	59.3	1500	40.7	1.53±0.50	Fair

Table No. 5: distribution of study sample knowledge responses regarding pruritus (self care)

Item	Correct		Incorrect		Mean±SD	Level
	No.	%	No.	%		
Moisturizing frequency	85	56.7	65	43.3	1.57±0.50	Fair
Type of moisturizer	90	60.0	60	40.0	1.60±0.49	Fair
Time of application	88	58.7	62	41.3	1.59±0.49	Fair
Soap type	92	61.3	58	38.7	1.61±0.49	Fair
Water temperature	35	23.3	115	76.7	1.23±0.48	Poor
Drying method	89	59.3	61	40.7	1.59±0.49	Fair
Total	489	54.3	411	45.7	1.54±0.20	Fair

DISCUSSION

In the present study, 46.6% was 50 years and above, 34.7% were within the age range of 30-49 years and only 18.7% were below 30 years. This finding shows that regular hemodialysis is more common in the elderly due to the progressive course of chronic kidney disease and its comorbidities such as hypertension and diabetes mellitus. Daraghmeh et al[8] reported that the mean age of hemodialysis patients was around 55 years and that a large proportion of participants were elderly. This study showed that 58.7% were males while 41.3% were females. This may be related to a higher prevalence of chronic renal failure in men and greater exposure to risk factors for renal impairment. This finding is consistent with Daraghmeh et al[8] reported 62.8% of their participants were male while Tameezuddin et al[9] also reported a predominance of male patients on dialysis. This study also showed that 64.0% of the participants were from urban areas while 36.0% were from rural areas. This finding may be related to the availability of dialysis centers and health care services in urban areas, which allows regular attendance for hemodialysis sessions and follow-up care. Living in urban areas may also be conducive to health education and self-care information regarding cutaneous disorders.

This study showed 23.3% had secondary education and 23.3% had college level or above. However, 20% were illiterate and 14.7% could read and write only. The low educational level may negatively affect the patients' understanding of the self-care instructions and adherence to the preventive measures to skin complications such as xerosis and pruritus. This finding is in line with Nia et al[10] which reported the educational level of most hemodialysis patients below high school, which influenced self-care behaviors and body image concerns.

Majority of the participants were not working (62%) and only 38% were engaged in an occupation. This may be due to the physical burden of chronic kidney disease, frequent dialysis, fatigue, and associated cutaneous symptoms, all of which limit patients' ability to hold employment. Similar results were also reported by Daraghmeh et al.[8]

In current study, majority of patients (72%) were also on thrice weekly hemodialysis, while 28% were on twice weekly dialysis sessions (Table 2). These results suggest that most of the participants were undergoing regular and intensive dialysis treatment, which may make them susceptible to skin disorders, such as xerosis, pruritus, skin dryness and irritation, due to prolonged exposure to physiological changes related to dialysis. The findings are consistent with Radwan et al[11], which reported that patients who had longer durations of hemodialysis experienced higher levels of pruritus and skin-related complications. They found a significant association between years of dialysis treatment and increased severity of itching among hemodialysis patients. Similarly, Sukul et al[12] demonstrated that chronic kidney disease-associated pruritus is highly prevalent among patients receiving maintenance hemodialysis, especially among those undergoing long-term and frequent dialysis sessions.

The findings of this study indicate that the overall knowledge level of the participants was predominantly at a moderate level. Most items achieved mean scores ranging from 1.50 to 1.63, which fall within the moderate category according to the study scoring system (1.34-1.67). Only one item, related to the causes of skin changes (Q2), showed a mild level of knowledge with a mean score of 1.20, indicating insufficient understanding among patients regarding dermatological alterations associated with chronic kidney disease and hemodialysis. The highest correct response was found in Q1 on the skin barrier (63.3%) followed by Q5 related to the management of pruritus (61.3%). The lowest correct response was related to causes of skin changes (20.0%). The results suggest that patients have basic knowledge of pruritus symptoms and management, but limited knowledge of the physiological and pathological mechanisms of skin disorders. Moreover, about half of the participants answered correctly the questions related to the frequency of bathing, type of soap, size of soap, and skin pH, which shows a moderate understanding of self-care practices needed to reduce skin irritation and dryness among hemodialysis patients. These findings are consistent with Al-Khafaji and Al-Mayahi[13] which reported that hemodialysis patients demonstrated moderate knowledge concerning uremic pruritus, particularly regarding symptom recognition and daily skin care measures, while deficiencies were identified in understanding the causes and complications of pruritus.

A recent systematic review by Turgay et al[14] emphasized that chronic kidney disease-associated pruritus significantly affects patients' quality of life, sleep quality, and psychological well-being, and highlighted the importance of patient education and self-care interventions in improving outcomes among hemodialysis patients. The current findings support this evidence, as patients demonstrated relatively better knowledge regarding management strategies compared with theoretical understanding of disease mechanisms.

The xerosis, inflammation, and skin barrier dysfunction are major contributors to chronic kidney disease-associated pruritus. A systematic review by Cîrstea et al[15] highlighted the importance of regular skin moisturization, avoidance of irritating soaps, and adherence to self-care recommendations for reducing itching severity and improving patient comfort.

In the present study, 73.3% have presence of itching. These findings suggest that pruritus is still one of the most frequent dermatologic complications in patients on hemodialysis and negatively influences patients' comfort, sleep and quality of life. Additionally, 63.3% of the participants experienced moderate-to-severe itching suggesting poor control of symptoms and inadequate skin management self-care practices. In the current study, 53.3% of patients experienced generalized itching over the whole body while 46.7% reported localized itching. These findings are consistent with recent evidence that chronic kidney disease-related pruritus often presents with generalized pruritus, mainly due to metabolic disturbances, inflammatory mediators, xerosis and toxin accumulation among patients on hemodialysis. Sixty percent of patients reported that pruritus disrupted sleep, and 61.3% reported moderate to severe interference with daytime comfort. These findings are in line with the study by Shetty et al[16] which showed that uremic pruritus has a significant impact on sleep quality and health-related quality of life in patients undergoing hemodialysis. Sukul et al[12] also reported that persistent pruritus in patients undergoing hemodialysis was strongly associated with poor patient-reported outcomes, sleep disorders, psychological distress, and poor quality of life.

The present study also found that skin lesions due to scratching were seen in 58.7% of patients and visible scratch marks were seen in 66.7% of patients. This may be because of poor compliance to self care measures including regular skin hydration, nail care, avoidance of excessive scratching and appropriate skin protection. Xerosis and poor topical skin care have been highlighted in recent reviews as important in skin damage and worsening pruritus in patients on dialysis. 56.7% of the participants had scars due to severe pruritus. This is suggestive of chronicity of itching and recurrent trauma to the skin due to constant scratching. The findings are in keeping with previous literature that chronic pruritus can cause excoriations, secondary skin lesions and increased susceptibility to infection in patients on long term hemodialysis. Also present in the present study were environmental and lifestyle factors. About 70.0% of patients were in dry-air environments and 62.7% wore synthetic or wool clothing, which are known to exacerbate skin dryness and pruritus. The current results are consistent with the recommendations of recent studies which have highlighted the significance of self-care practices including skin moisturization, avoidance of irritant fabrics and improvement of environmental humidity to alleviate cutaneous symptoms among hemodialysis patients.

This study showed that most of the participants had a moderate level of knowledge and practice regarding skin care measures for pruritus management. Highest correct responses were soap type (61.3%), type of moisturizer (60.0%), method of drying (59.3%), time of application (58.7%), and frequency of moisturizing (56.7%). The mean scores of these items ranged from 1.57 to 1.61, indicating a moderate level of self-care awareness. In contrast, water temperature had the lowest percentage of correct responses (23.3%) with an average score of 1.23, indicating a mild level of knowledge. This finding shows that a large number of hemodialysis patients may not be aware of the importance of avoiding hot water, which may aggravate skin dryness and aggravate pruritus symptoms. These results are in line with the review by Krismi et al[17]. (2023) which highlighted xerosis as one of the most common dermatological manifestations in patients

undergoing hemodialysis and its strong association with the severity of chronic kidney disease-related pruritus. Their study emphasized the role of topical therapy, moisturizers, mild soaps and adequate skin hydration in reducing the intensity of itch and improving the quality of life among dialysis patients.

CONCLUSION

Skin manifestations are very common in hemodialysis patients with uremic pruritus (itching) being the most dominant symptom affecting the majority of the sample. There is a huge knowledge deficit in patients' knowledge regarding the nature of skin changes and importance of professional skin care, which may lead to exacerbation of these conditions

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Zainab Hassan Abd-kadham, Sahar Adham Ali
Drafting or Revising Critically:	Zainab Hassan Abd-kadham, Sahar Adham Ali
Final Approval of version:	All the above authors
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