International Journal of General Medicine

Dovepress
Taylor & Francis Group

Open Access Full Text Article

ORIGINAL RESEARCH

# Unveiling the Burden of Pruritus: Its Prevalence and Impact on Sleep Quality in Hemodialysis Patients in Somalia

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**Introduction:** Despite its ubiquity, pruritus is frequently underreported and inadequately handled in healthcare settings, such as Somalia. This study aimed to investigate the prevalence of pruritus and their impact on sleep quality among hemodialysis patients in Somalia.

**Methods and Materials:** Between February and April 2024, a cross-sectional study was done at the Mogadishu Somali Turkish Training and Research Hospital. Two hundred and ninety-nine routine hemodialysis patients had participated. The 12-item Pruritus Severity Scale (12-PSS) was used to assess pruritus severity, and the Pittsburgh Sleep Quality Index was used for sleep quality. Descriptive tests and logistic regressions were applied for analysis.

**Results:** The mean age of participants was 56.65 ± 12, ranging from 19 to 81 years. 76.9% of patients reported pruritus, with 68% moderate and 24.3% severe. The mean 12-PSS score was 10.32 ± 2.16. Pruritus was associated with comorbidities (OR: 2.791, $P < 0.001$) and duration of hemodialysis (OR: 0.609, $P < 0.003$). The average PSQI score was 8.69 ± 5.8, and 61.9% of patients were classified as bad sleepers. Poor sleep quality was substantially associated with pruritus ($P < 0.001$). We found $R2 = 0.10$, $F(5,293) = 4.38$, $p < 0.001$, in the multiple regression between pruritus and age, sex, duration of hemodialysis and sessions of hemodialysis per week. Also, age group, sex, presence of comorbidities, duration of hemodialysis, sessions of hemodialysis per week, and pruritus have shown $R2 = 0.34$, $F(6,292) = 26$, $p < 0.001$.

**Conclusion:** Pruritus is associated with poor sleep and patients who were living with co-morbidities and patients who were going to hemodialysis for a long time tend to develop pruritus. Effective pruritus management is critical for better patient outcomes and quality of life.

**Keywords:** hemodialysis, pruritus, sleep quality, chronic kidney disease, Somalia

## Introduction

Chronic kidney disease (CKD) is a major global health problem that affects millions of people worldwide. Among its various health issues, pruritus, sometimes known as itching, is a painful sensation encountered by many CKD patients receiving hemodialysis.[1] Pruritus has a major influence on patients' quality of life, including sleep difficulties, psychological difficulties, and a decline in general well-being.[2] While the origin of pruritus in CKD is multifaceted, its relationship with hemodialysis has received great attention due to its high prevalence and detrimental implications on patients' everyday lives.

Recent data have found that the prevalence of pruritus among hemodialysis patients ranges from 30% to 70%, with significant variances being documented between groups and settings.[3] A global study by Pisoni et al in 2006 reported a 42% of hemodialysis patients experienced moderate-to-severe pruritus, while another study from 2015 observed rates exceeding 60%. In Japan, a study reported prevalence at 44%.[4–6] Furthermore, the intensity of pruritus varies greatly, from slight irritation to severe and persistent itching, which causes difficulties in sleep and poor sleep quality.[7]

Received: 21 October 2024
Accepted: 28 January 2025
Published: 30 January 2025

Sleep issues, such as trouble falling asleep, frequent awakenings, and decreased sleep duration, are typical complaints among hemodialysis patients with pruritus, worsening the severity of their illness. Sleep disturbances in patients with pruritus are well documented, with studies showing a strong correlation between the severity of pruritus and the degree of sleep disruption. Research has demonstrated a strong correlation between pruritus severity and sleep disturbances, with patients suffering from pruritus being more likely to experience poor sleep quality.[8] A Systematic Review and Meta-Analysis in 2019 reported that sleep disturbance among patients suffering from pruritus between 9% and 76%.[9]

Poor sleep quality, in turn, exacerbates the physical and emotional challenges faced by the patients, leading to increased fatigue, depression, and reduced daytime functioning. This vicious cycle not only diminishes the quality of life but also potentially worsens the prognosis for hemodialysis patients, as adequate sleep is essential for maintaining overall health and well-being.[10,11]

Despite its frequency, pruritus remains underreported and poorly managed, leading to substantial physical and psychological distress for affected individuals.[4] In Somalia, where healthcare resources are limited, the burden of pruritus among hemodialysis patients has not been extensively studied, making this research crucial for understanding the scope of the problem and informing future interventions. Understanding the incidence, severity, and impact of pruritus on sleep quality in this particular group of the population in Somalia is critical for designing effective care plans and improving patient outcomes. Hence, the main objective of this cross-sectional study was to investigate the range and prevalence of pruritus, as well as its impact on sleep quality among patients receiving regular hemodialysis at a tertiary care hospital in Somalia.

## Methods and Materials

This cross-sectional study was conducted at the Mogadishu Somali Turkish Training and Research Hospital, the largest hemodialysis center in Somalia.[12,13] The study aimed to assess the prevalence of pruritus and its impact on sleep quality among patients undergoing routine hemodialysis. The study was carried out over a three-month period, from February 2024 to April 2024. Specifically, the research ethics committee of the Somali Mogadishu-Turkish Training and Research Hospital gave permission to the project (the date of approval was November 5, 2023, and the approval number was MSTH/12052). All data was handled in a manner that was consistent with the ethical principle of the Declaration of Helsinki regarding the protection of privacy. Each of the individuals who participated in the research study signed a written statement of informed consent prior to the actual execution of the study.

The study population comprised all patients receiving routine hemodialysis at the Mogadishu Somali Turkish Training and Research Hospital during the study period. Patients younger than 18 years, those who had been on hemodialysis for less than three months, those with a cognitive impairment, those with liver and skin diseases, and those who refused to participate in the study were excluded. Initially, 360 patients were identified as potential candidates for the study. After applying the exclusion criteria, a total of 299 patients were included in the final analysis.

All data were collected using a combination of clinical records and face-to-face interviews with the patients. The following data were obtained: demographic and clinical data such as age, gender, duration of hemodialysis, session of hemodialysis per week, comorbid conditions, and relevant laboratory values were extracted from the hospital's information system. The determination of the presence of pruritus was obtained as a self-reported symptom from the patients and the severity of pruritus was assessed using a standardized 12-item pruritus severity scale. This scale evaluates the frequency, intensity, and distribution of itching, as well as its impact on daily activities. Three pruritus severity categories of 12-item pruritus severity scale were used in this study. Mild pruritus was defined as 3–6 points, the moderate pruritus was defined as 7–11 points, and severe pruritus was defined as 12–22 points.[14]

Regarding the sleep quality, it was assessed using the Pittsburgh Sleep Quality Index (PSQI). The PSQI is a validated tool that measures various aspects of sleep quality, including sleep duration, sleep disturbances, sleep latency, and daytime dysfunction. We adapted the interpretation of PSQI as follows, according to Buysse et al: the participants with the score of more than 5 was considered as poor sleepers and the participants with score of 5 and less was considered as good sleepers.[15]

The SPSS version 27 (IBM Corporation, Armonk, New York, United States) was utilized for the analysis of the data. Calculations were made to determine the frequencies and percentages for categorical variables. For the purpose of

graphically representing the proportions, we employed tables of frequencies and percentages. The definition of a statistically significant result was specified as $P < 0.05$. Binary logistic regression was utilized in order to ascertain the odds ratio (OR) as well as the confidence intervals (CIs). Multiple regression was used to assess the combined effect of the predictors in this study.

## Results

A total of 299 patients participated in the study, and their ages ranged from 19 to 81 years old, with the mean age being 56.65 ± 12. In regards to age group, the most predominant age group in our study was above 60 years old with a frequency of 153 patients (51.2%), followed by 41–60 years old with a frequency of 111 (37.1%). The least common age group was 18–40 years old patients with a frequency of 35 participants (11.7%). The sex ratio in the population that was analyzed showed that there were more males than females in our study, with 162 (54.27%) males and 137 (45.8%) females (Table 1).

We analyzed the comorbidities of the participants; 210 out of 299 patients (70%) had comorbid diseases, including diabetes mellitus in 120 participants (40.1%), hypertension in 116 participants (38.8%), cardiovascular disease in 38 participants (12.7%), and other complications in 23 participants (7.7%).

In regard to hemodialysis program, we found that most of our participants have been going to routine hemodialysis for 24–48 months with 108 participants (36.1%), followed by more than 48 months with 89 participants (29.8%), 6–24 months with 83 participants (27.8%), less than 6 months with 19 participants (6.4%). We also found that most of our

**Table 1** Patient Related Factors of Our Participants

| Variables | Frequency | Percentage |
|---|---|---|
| **Age 56.65± 12** | | |
| 18–40 years | 35 | 11.7% |
| 41–60 years | 111 | 37.1% |
| Above 60 years | 153 | 51.2% |
| **Sex** | | |
| Male | 162 | 54.27% |
| Female | 137 | 45.8% |
| **Comorbidities** | | |
| Diabetes Mellitus | 120 | 40.1% |
| Hypertension | 116 | 38.8% |
| Cardiovascular diseases | 38 | 12.7% |
| Other complications | 23 | 7.7% |
| **Duration of Hemodialysis** | | |
| Less than 6 months | 19 | 6.4% |
| 6–24 months | 83 | 27.8% |
| 25–48 months | 108 | 36.1% |
| More than 48 months | 89 | 29.8% |
| **Sessions of hemodialysis per week** | | |
| 1 session | 29 | 9.7% |
| 2 sessions | 224 | 74.9% |
| 3 sessions | 46 | 15.4% |
| **Sleep Quality Mean PSQI Score (8.69±5.8)** | | |
| Good sleepers | 114 | 38.1% |
| Poor sleepers | 185 | 61.9% |

participants were on 2 times per week hemodialysis schedule with 224 participants (%), followed by 3 times per week with 46 participants (15.4%), and 1 time per week with 29 participants (9.7%).

Among the 299 patients that were included in our investigation, the prevalence of pruritus was found to be 76.9% in 230 patients. The overall mean of the 12-item pruritus severity score was observed at 10.32 ± 2.16. The minimum score was measured at 5 and the maximum score was measured at 18. According to the 12-item pruritus severity score, the majority of the patients were suffering from moderate pruritus with 157 patients (68%), followed by severe form of pruritus with 56 patients (24.3%). The mild form of pruritus was present in 17 patients (7.3%) (Table 2).

In regard to the duration of pruritus in our study, most of our participants reported 6–12 hours of itching per day with a frequency of 97 participants (42.2%), followed by less than 6 hours per day with a frequency of 71 participants (30.9%). The patients who were suffering long hours itching per day were observed at 62 patients (27%). In the present study, we also investigated and asked about the location of pruritus. We found that 64.8% of the patient were suffering

**Table 2** The Characteristics of Pruritus Among Participants

| Variables | Frequency | Percentage |
|---|---|---|
| **Presence of Pruritus Mean 12-item PSS (10.32±2.16)** | | |
| Yes | 230 | 76.9% |
| No | 69 | 23.1% |
| **Itching time per day** | | |
| Less than 6 hours | 71 | 30.9% |
| 6–12 hours | 97 | 42.2% |
| More than 12 hours | 62 | 27% |
| **Pruritus severity** | | |
| Mild | 17 | 7.4% |
| Moderate | 157 | 68.3% |
| Severe | 56 | 24.3% |
| **Location of pruritus** | | |
| Scalp | 87 | 37.8% |
| Face | 66 | 28.7% |
| Chest | 133 | 57.8% |
| Shoulders | 86 | 37.4% |
| Arms | 100 | 43.5% |
| Palms | 54 | 23.5% |
| Back | 139 | 60.4% |
| Abdomen | 96 | 41.7% |
| Buttocks and perineum | 72 | 31.3% |
| Thighs | 110 | 47.8% |
| Lower legs | 149 | 64.8% |
| Soles | 43 | 18.7% |

itching of the lower limbs, followed by the back with 60.4%. The least site where the itching was affecting among our participants was the soles with 18.7%.

We also investigated the sleep quality of our patients by using the Pittsburgh Sleep Quality Index (PSQI) and also the effect of which pruritus have towards sleep qualities. The overall mean of PSQI was measured at 8.69 ± 5.8. The minimum score was measured at 1 and the maximum score was measured at 21. We observed that most of our respondents were poor sleepers with 185 patients (61.9%) while 114 (38.1%) were identified as good sleepers (Table 1).

Our study used binary logistic regression analysis to determine the associations between variables. The test showed a strong correlation between pruritus and comorbidities ($P < 0.001$). Patients living with comorbid diseases were 2.7 times more likely to develop pruritus than patients without comorbid conditions (95% CI: 1.554–5.013, OR: 2.791). In addition, there was a positive correlation between pruritus and the duration of hemodialysis. Participants with longer duration of hemodialysis tend to develop pruritus than patients with lesser duration of hemodialysis (95% CI: 0.439–0.843, OR: 0.609, $P < 0.003$) (Table 3). In regard to sleep quality, the presence of pruritus in patients tends to be more associated with poor sleep. The test showed the PSQI score was significantly associated with pruritus (95% CI: 13.787–79.374, OR: 33.081, $P < 0.001$). This result highlighted that patients living with pruritus were 33 times more likely to have poor sleep than patients without pruritus (Table 4).

**Table 3** Binary Logistic Regression Analysis Between Pruritus and Patient Characteristics

| **Age (years)** | **Pruritus** | | **Odd ratio** | **95% CI** | ***p value*** |
|---|---|---|---|---|---|
| | **Yes** | **No** | | | |
| 18–40 | 25 | 10 | 1.351 | 0.899–2.030 | <0.147 |
| 41–60 | 84 | 27 | | | |
| Above 60 | 121 | 32 | | | |
| **Sex** | | | | | |
| Male | 122 | 40 | 1.023 | 0.579–1.808 | <0.938 |
| Female | 108 | 29 | | | |
| **Comorbidities** | | | | | |
| Yes | 172 | 38 | **2.791** | **1.554–5.013** | **<0.001** |
| No | 58 | 31 | | | |
| **Duration of hemodialysis** | | | | | |
| Less than 6 months | 17 | 2 | **0.609** | **0.439–0.843** | **<0.003** |
| 6–24 months | 68 | 15 | | | |
| 25–48 months | 85 | 23 | | | |
| More than 48 months | 60 | 29 | | | |
| **Sessions of hemodialysis per week** | | | | | |
| 1 time per week | 23 | 6 | 0.930 | 0.528–1.639 | 0.803 |
| 2 times per week | 172 | 52 | | | |
| 3 times per week | 35 | 11 | | | |

**Note**: variables with Bold numbers indicate statistical significance.


https://doi.org/10.2147/IJGM.S502034

**Table 4** Binary Logistic Regression Analysis Between Sleep and Patient Characteristics

| Age (years) | Sleep | | Odd ratio | 95% CI | *p value* |
|---|---|---|---|---|---|
| | Good sleepers | Poor sleepers | | | |
| 18–40 | 13 | 22 | 0.928 | 0.604–1.427 | 0.734 |
| 41–60 | 45 | 66 | | | |
| Above 60 | 56 | 97 | | | |
| **Sex** | | | | | |
| Male | 59 | 103 | 0.680 | 0.378–1.224 | 0.198 |
| Female | 55 | 82 | | | |
| **Presence of pruritus** | | | | | |
| Yes | 52 | 178 | **33.081** | **13.787–79.374** | **<0.001** |
| No | 62 | 7 | | | |
| **Comorbidities** | | | | | |
| Yes | 74 | 136 | 0.918 | 0.470–1.793 | 0.802 |
| No | 40 | 49 | | | |
| **Duration of hemodialysis** | | | | | |
| Less than 6 months | 3 | 16 | 0.963 | 0.693–1.337 | 0.822 |
| 6–24 months | 32 | 51 | | | |
| 25–48 months | 41 | 67 | | | |
| More than 48 months | 38 | 51 | | | |
| **Sessions of hemodialysis per week** | | | | | |
| 1 time per week | 11 | 18 | 1.443 | 0.800–2.605 | 0.223 |
| 2 times per week | 89 | 135 | | | |
| 3 times per week | 14 | 32 | | | |

**Note**: variables with Bold numbers indicate statistical significance.

In our analysis, we also examined the combined effects of the patients age group, sex, presence of comorbidities, duration of hemodialysis program, and sessions of hemodialysis program per week as a group towards the development of pruritus by utilizing multiple regression test. We observed that the combined effect of the aforementioned predictors to have significant association with the development of pruritus. We have found that they have $R^2 = 0.10$, which indicates that they have a 10% variance in the prevalence of pruritus among patients on routine hemodialysis program with a significance of $F\ (5293) = 4.38$, $p < 0.001$ (Table 5). Also, the combined effects of age group, sex, presence of comorbidities, duration of hemodialysis program, sessions of hemodialysis program per week, and presence of pruritus have shown significant association with the development of poor sleep quality as a set with $R2 = 0.34$, which indicates that they have a 34% variance in the development of poor sleep quality with a significance of $F\ (6292) = 26$, $p < 0.001$ (Table 6).

**Table 5** Multiple Regression Analysis of the Combined Variables Towards Pruritus

| Model Summary | | | | | |
|---|---|---|---|---|---|
| **Model** | **R** | **R Square** | **Adjusted R Square** | **Std. Error of the Estimate** | |
| 1 | 0.264[a] | 0.070 | 0.054 | 0.411 | |
| **ANOVA[a]** | | | | | |
| **Model** | | **Sum of Squares** | ***df*** | **Mean Square** | **F** | **Sig.** |
| 1 | Regression | 3.692 | 5 | 0.738 | 4.380 | 0.001[b] |
| | Residual | 49.385 | 293 | 0.169 | | |
| | Total | 53.077 | 298 | | | |

**Notes**: a. Predictors: (Constant), comorbidity, Age, Session of HD per week, Gender, Duration of HD. a. Dependent Variable: pruritus. b. Predictors: (Constant), comorbidity, Age, Session of HD per week, Gender, Duration of HD.

**Table 6** Multiple Regression Analysis of the Combined Variables Towards Sleep

| Model Summary | | | | | |
|---|---|---|---|---|---|
| **Model** | **R** | **R Square** | **Adjusted R Square** | **Std. Error of the Estimate** | |
| 1 | 0.590[a] | 0.348 | 0.335 | 0.397 | |
| **ANOVA[a]** | | | | | |
| **Model** | | **Sum of Squares** | ***df*** | **Mean Square** | **F** | **Sig.** |
| 1 | Regression | 24.542 | 6 | 4.090 | 25.969 | 0.000[b] |
| | Residual | 45.993 | 292 | 0.158 | | |
| | Total | 70.535 | 298 | | | |

**Notes**: a. Predictors: (Constant), comorbidity, Age, Session of HD per week, Gender, Duration of HD, pruritus. a. Dependent Variable: Sleep. b. Predictors: (Constant), comorbidity, Age, Session of HD per week, Gender, Duration of HD, pruritus.

## Discussion

This study provides novel insights into the frequency and influence of pruritus on the quality of sleep among hemodialysis patients in Somalia. The results of our study show that pruritus is a common issue, affecting 76.9% of the patients who get regular hemodialysis at the Mogadishu Somali Turkish Training and Research Hospital. This is consistent with other researches that emphasizes pruritus as a common and burdensome condition in this population, with consequences for both physical and psychological health. In a 2006 global study conducted by Pisoni et al, it was found that 42% of hemodialysis patients in the Dialysis Outcomes and Practice Patterns Study suffered from moderate-to-severe pruritus, highlighting its prevalence worldwide.[4] In a study conducted in Germany by Rayner et al in 2017, it was observed that around 74% of hemodialysis patients suffered pruritus, which aligns with our findings in Somalia. The higher occurrence identified in our study may be ascribed to distinct environmental, genetic, and healthcare access factors that are unique to Somalia. However, additional investigation is necessary to elucidate these connections.[16]

Our study revealed no statistically significant disparity in the occurrence of pruritus between males and females, underscoring the pervasive nature of pruritus among hemodialysis patients, impacting individuals irrespective of gender.

Studies examining the frequency of pruritus in hemodialysis patients in East Africa are scarce in the literature, and we only found one study done in Kenya. A 2018 cross-sectional survey conducted at Kenyatta University in Nairobi by Koech and colleagues discovered that 33.9% of hemodialysis patients experienced pruritus, a finding that is marginally lower but close to our own outcomes.[17]

The pruritus severity identified in our study, with 68% of patients suffering moderate symptoms and 24.3% reporting severe pruritus, aligns with prior studies completed worldwide. Pruritus, particularly when it is moderate to severe, is commonly acknowledged as a significant problem for hemodialysis patients since it negatively impacts their quality of life. Prior research has shown that severe pruritus in individuals undergoing hemodialysis is linked to elevated levels of sleep disruptions, depression, and even greater mortality rates.[4] In addition, a study conducted by Kimata and colleagues in 2020 indicated that severe pruritus is associated with difficulties in doing daily tasks, higher reliance on sedative drugs, and reduced overall quality of life. This emphasizes the significant effect it has on patients' well-being.[18] Considering that 24.3% of patients in our study experienced severe pruritus, it is imperative to prioritize the resolution of this problem in order to enhance their overall care and health outcomes.

The presenting study revealed a noteworthy correlation between pruritus and the existence of comorbidities, as well as the duration of hemodialysis. Patients who had comorbid conditions were observed to have a 2.7-fold higher likelihood of experiencing pruritus compared to those who did not have any comorbid diseases ($P < 0.001$). This report is consistent with previous studies that have investigated the intricate relationship between pruritus, coexisting medical conditions, and the length of hemodialysis treatment in individuals with CKD. In 2010, Mathur et al conducted a study, which found that hemodialysis patients who had several comorbidities, such as diabetes and cardiovascular disease, were at a considerably higher risk of acquiring pruritus.[2] The study revealed that individuals with two or more comorbid diseases had a much higher likelihood of reporting pruritus compared to those without comorbidities. The increase in risk was roughly 2.5 times, which closely aligns with the 2.7-fold increase identified in our study.

In a comprehensive study conducted in 2020, it was shown that the occurrence of pruritus in hemodialysis patients was notably more prevalent in those who had additional medical conditions, specifically cardiovascular diseases and diabetes.[18] Their research revealed that patients with these comorbidities had a roughly twofold increased likelihood of experiencing pruritus. Although their odds ratio was slightly lower than ours, the consistent identification of comorbidities as a significant risk factor for pruritus reinforces the case for focused therapies in patients with numerous chronic diseases.

Similarly, a study by Duque et al in 2021 showed that comorbid illnesses such as hypertension and diabetes were strong indicators of pruritus. Patients with these conditions had a 2.3-fold higher probability of experiencing pruritus. The minor disparity in odds ratios between our study and other studies may be ascribed to disparities in the specific comorbidities investigated, patient populations, or dialysis methods among study settings.[19] The correlation between comorbidities and pruritus can be ascribed to the systemic inflammatory state frequently observed in individuals with chronic illnesses, which can worsen uremic toxins and contribute to the onset of pruritus.

Our study found that patients undergoing hemodialysis for an extended period of time had a higher likelihood of experiencing pruritus. This assertion is supported by a study carried out by Rayner et al in 2017, which indicated that the incidence of pruritus rises in proportion to the length of dialysis therapy.[16] Patients who had undergone dialysis for over five years were shown to have a considerably greater probability of experiencing moderate-to-severe pruritus compared to those who had undergone hemodialysis for a shorter period of time. The relationship between pruritus and prolonged duration of hemodialysis may be attributed to the cumulative exposure to uremic toxins and the continuous inflammatory state. The significant correlation between pruritus and both coexisting medical illnesses and the length of dialysis treatment in our research emphasizes the necessity for comprehensive approaches to managing patients undergoing long-term hemodialysis with various chronic ailments. Timely detection and intervention in this population at increased risk could potentially alleviate the intensity of itching and enhance the overall standard of living.

According to our study, most patients with pruritus experienced severe disturbances in their sleep patterns. Specifically, 61.9% of the participants were classified as poor sleepers based on the PSQI assessment. Our findings indicate that individuals with pruritus had a significantly higher likelihood of experiencing poor sleep quality, being 33 times more susceptible compared to those without pruritus ($P < 0.001$). The strong association between pruritus and sleep quality and general well-being among hemodialysis patients highlights the importance of improving pruritus management. Our finding aligns with prior researches that has also emphasized the adverse effect of pruritus on sleep patterns in this particular group.

In a recent study conducted by Sukul et al in 2019, it was discovered that individuals suffering from pruritus had a 1.7 times higher likelihood of experiencing poor sleep quality, as indicated by a PSQI score more than 5, compared to those who did not have pruritus.[20] Although the odds ratio we saw was 33 times higher, their study might have included a wider range of pruritus severity, which could explain the difference. In addition, sleep disturbance was assessed in several demographic groups, potentially reducing the impact of the correlation shown in our study. Our study especially focused on patients having routine hemodialysis in a highly concentrated clinical environment.

A study conducted by Gwillim et al in 2021 revealed that a substantial 69% of hemodialysis patients suffering from pruritus encountered notable disruptions in their sleep patterns. The slightly greater percentage of afflicted individuals in Gwillim's research, in comparison to our own, could be attributed to the utilization of a more comprehensive pruritus severity scale. This scale captures even minor sleep disturbances that we may have classified as non-disruptive. However, both studies provide solid evidence that pruritus is a major indicator of low sleep quality in dialysis patients, which in turn contributes to their overall reduced quality of life.[21]

## Limitations and Strength

This study has several limitations, which include the use of a single-center design that may restrict the applicability of the findings to other settings and the cross-sectional character of the study prevents making definitive conclusions about causality. Moreover, the dependence on self-reported data adds the possibility of recall bias, which may impact the precision of the assessments of pruritus severity and sleep quality.

On the other hand, as strength, our study is the first investigation to assess the prevalence of pruritus and its impact on the quality of sleep among hemodialysis patients in Somalia, providing new insights in an unexplored context. In addition, the utilization of validated instruments, specifically the 12-item Pruritus Severity Scale (12-PSS) and Pittsburgh Sleep Quality Index (PSQI), which contribute to the dependability and accuracy of the results.

## Conclusion

This study highlights the high prevalence of pruritus among hemodialysis patients in Somalia and its significant impact on sleep quality. Pruritus is associated with poor sleep and patients who were living with co-morbidities and patients who were going to hemodialysis for long time tend to develop pruritus. The significant prevalence of moderate-to-severe pruritus and its effect on sleep quality is a substantial clinical obstacle that deserves greater attention. Given the strong association between pruritus, comorbidities, and poor sleep, targeted interventions are crucial to improve patient well-being and optimize the management of pruritus in this population.

## Abbreviations

CKD, Chronic kidney disease; PSQI, Pittsburgh Sleep Quality Index.

## Data Sharing Statement

The data is available from corresponding author if requested.

## Disclosure

The authors declare no conflicts of interest in relation to this work.

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