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ORIGINAL ARTICLE

Incidence of Chronic Kidney Disease Related Pruritus and its Relation with Sleep Quality among Patients on Hemodialysis in Pakistan

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ABSTRACT

Due to injured kidneys, CKD is defined as a glomerular filtration rate of less than 60ml/min/1.73m2 for more than 3 months. The lethal stage of chronic CKDs is the last stage of renal disease, and its frequency has increased over the previous 30 years. Pruritus caused by chronic renal disease is an unpleasant illness that causes itching and reduces sleep quality.

The goal of this study is to look at the characteristics of pruritus in people with CKD and how they relate with sleep quality among patients on maintenance hemodialysis.

Place and Duration: In the department of Medicine & Nephrology of Lahore General Hospital and Islamic International Medical College Trust Railway General Hospital, Rawalpindi for six-months duration from April 2021 to September 2021.

Methods: 60 chronic renal disease patients were gathered from the nephrology department. Inclusion criteria included all patients with CKD who had pruritus and had sleep disturbance, while exclusion criteria included all patients who had rashes and pruritus that were not caused by CKD and were caused by other disorders. Age, gender, sleep pattern, disease severity, poor sleep quality, & pruritus location were all investigated by all patients.

Results: CKD-associated Pruritus was distributed as follows: 75 percent of all patients were 45 years old or older, whereas 25 percent were 45 years old or younger. Pruritus interfered with sleep in 41.7% of patients, but not in 58.3%, and 30.1 percent of patients were girls and 73.9 percent were men. About 55% of people with pruritus are severely affected, whereas 45% are not. The trunk accounts for 60% of pruritic patients, whereas the rest of the body accounts for 40%. There was a strong link between the degree of pruritus and gender, the afflicted region, and sleep.

Conclusion: Pruritus, often known as "uremic pruritus," is the most common skin complaint in people with ESRD. Due to the lack of a clear relationship with uremia, a substantial association occurs in males over the age of 45, disrupts sleep, and predominates in the trunk area.

Keywords: Pruritus, Chronic renal disease, Characteristics, Association variables

INTRODUCTION

Due to injured kidneys, CKD is defined as a glomerular filtration rate of less than 60ml/min/1.73m2 for more than 3 months[1-2]. The lethal stage of chronic CKDs is the last stage of renal disease, and it has become more common in the previous 30 years[3]. Pruritus is an unpleasant sign of chronic renal illness that causes itching and affects sleep quality[4]. In advanced republics, more than 80% of individuals with ESRD were treated, and a considerable proportion of them decided to be cured with dialysis to lengthen their lives[5]. A typical name for itch is "uremic pruritus". Pruritus associated with CKD may be difficult to distinguish from pruritus caused by non-renal diseases commonly associated with CKD, such as thyroid disease and blood cancer[6-7]. Mutable incidence rates (8-70%) have been reported in individuals with variable severity in previous studies[8]. Patients on peritoneal or hemodialysis dialysis experience varying degrees of pruritus associated to CKD, which need more research[9]. Furthermore, as compared to patients without Pruritus due to CKD, individuals with Pruritus related to CKD had poor sleep patterns or severe depression[10]. There is no study tool for measuring pruritus in patients with CKD. Pruritus associated with CKD in dialysis patients has been connected to a number of risk factors. Examine the prevalence of Pruritus in dialysis patients with CKD in order to identify a suitable solution for reducing the sickness problem[11]. The goal of this study is to demonstrate the characteristics of Pruritus linked with CKD and their relationship to sociodemographic factors.

MATERIAL AND METHODS

A cross-sectional study of 60 patients with CKD was conducted at the department of Medicine & Nephrology of Lahore General Hospital and Islamic International Medical College Trust Railway General Hospital, Rawalpindi for six-months duration from April 2021 to September 2021. All patients with chronic renal disease who had rashes & pruritus were included, whereas all patients who had rashes and pruritus that were not connected with CKD and were caused by other disorders were excluded. Age, gender, sleep pattern, sickness intensity, poor sleep quality, & pruritus location were all reported by all patients The data was analysed using SPSS 22, which included frequencies and percentages for categorical data plus mean and SD for continuous data. To evaluate the association between variables, the Chi-square test was used.

RESULTS

In a cross-sectional study of 60 patients with CKD-related pruritus, the age distribution was as follows: all patients were 50 years old or older; 75 percent of all patients were 45 years old or older, whereas 25 percent were 45 years old or younger. Pruritus interfered with sleep in 41.7% of patients, but not in 58.3%, and 30.1 percent of patients were girls and 73.9 percent were men. (Table 1).

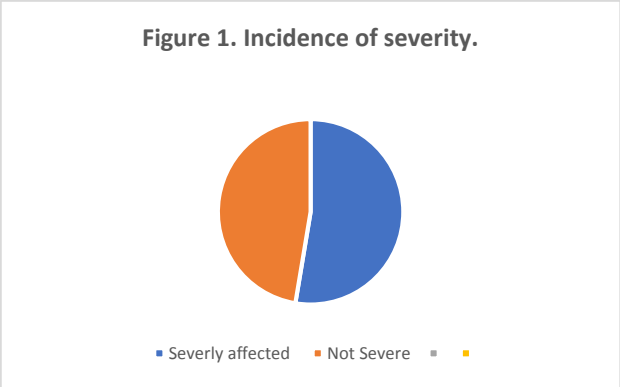
Table 1: Distribution of variables

variables		frequency	percentage
gender	Female	16	26.7
	Male	44	73.3
sleep	Interfere with sleep	25	41.7
	No association	35	58.3
age	below 45	15	25
	45 and above	45	75

About 55% of people with pruritus are severely affected, whereas 45% are not. The trunk accounts for 60% of pruritic patients, whereas the rest of the body accounts for 40%. (Figures 1 and 2).

The severity of Pruritus is related to gender; males account for 90% of severe Pruritus, while females account for 10% of severe Pruritus. Furthermore, there is a relationship between the severity of Pruritus and the location of the affected; 40 percent of

severe Pruritus happens across the body, while 60 percent occurs in the trunk. Furthermore, there is a relationship between the level of pruritus and sleep, with 100% of serious pruritus affecting with sleep. Furthermore, there is a relationship between pruritus frequency and age, with people aged 45 and higher experiencing 100% of severe pruritus (Table 2).



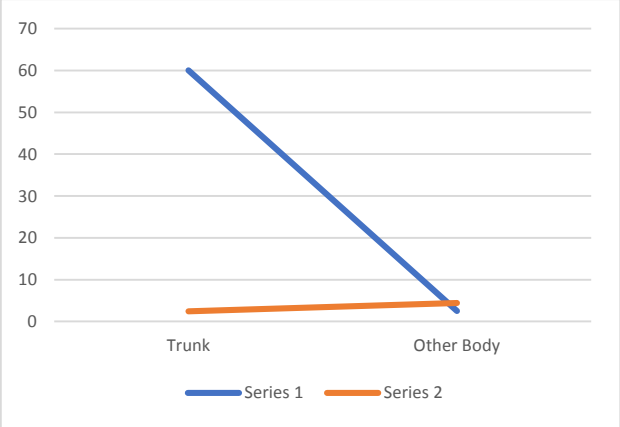


Figure 2: Distribution of Pruritus in the body of patients

Table 2: Association between variables and placental site

variables		severity		P-value
		no severe	severe	
gender	female	9	3	0.016
		33.3%	9.1%	
	male	18	30	
		66.7%	90.9%	
affected area	all body	5	19	0.0001
		20.8%	79.2%	
	trunk	29	7	
		80.5%	19.4%	
sleep	Interfere with sleep	0	24	0.0001
		0.0%	100.0%	
	No association	36	0	
		100.0%	0.0%	
age	below 45	6	0	0.034
		24%	0.0%	
	45 and above	31	14	
		68.9%	31.1%	

DISCUSSION

Pruritus is a bothersome consequence that has a negative impact on end-stage renal disease patients' health-related quality of life[12]. In our study, 75 percent of the patients were 45 years old or older, while just 25% were younger than 45 years old. Females account for 26.7% of patients, whereas men account for 73.3%. Pruritus interferes with sleep for 41.7% of patients, but not for 28.3%. Other research has found that the majority of patients are males, with the majority of them being over 45 years old and interfering with sleep. According to the current study, 55% of pruritic individuals are severe, whereas 45% are not. The trunk accounts for 60% of pruritic symptoms, whereas the rest of the body accounts for 40%. Furthermore, several studies have found that Pruritus is common in people with CKD, with 11(28%) having it. The most often afflicted local areas were the limbs in 10% (26%) of cases, the trunk in 9% (23%) of cases, and a combination of limbs and trunk in 7% (18%) of cases. Only 36% of pruritic patients are severe, while 64% are not or mild[13-14]. There is a substantial relationship between severity of Pruritus and gender in the current study, with 90 percent of severe Pruritus occurring in males and just 10% occurring in females. In contrast to previous research that found no link between gender and CKD pruritus, this study found a substantial link between gender and CKD pruritus[15-16].

Furthermore, there is a link between the degree of Pruritus as well as the location of the affected person; 60 percent of severe Pruritus affects the entire body, while 40 percent affects the trunk. Apart from gender and affected area, there is a link between pruritus intensity and sleep, with 100% of severe pruritus disrupting with sleep. CKD-related pruritus has been linked to decreased sleep quality. In this study, 53 percent of patients said they had moderate sleep issues, while 8.4% said they had severe sleep disorders.

More than 45 percent of patients in a study by Pisoni et al had moderate-severe pruritus with poor sleep, while in another research by Narita et al, 70 % have serious Pruritus, while 34 percent of participants have mild-modest Pruritus with poor sleep[17-18]. Pruritus was caused by sleep issues in 57 percent of patients, and 9 percent of patients were concerned about falling asleep. Pruritus, on the other hand, woke 13.0% of people, and 34.8 percent reported symptoms during sleeping and waking up. Tessari et al discovered that 59 percent of individuals with pruritus had difficulty sleeping[19-20]. Furthermore, there is a link between the severity of Pruritus and the patient's age, with 100% of severe Pruritus occurring in those aged 45 and up. This is in line with earlier research that have found a link between the severity of Pruritus in CKD patients and their age[21-22].

CONCLUSION

Pruritus, often known as "uremic pruritus," is the most common skin complaint in people with ESRD. Because there is no definitive link between uremia and a major increase in males over 45 years of age, sleep disturbances, and more in the trunk area, there is a significant increase in males over 45 years of age.

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