

Original Research Article

A STUDY ON PREVALENCE OF SUICIDAL IDEATION AMONG PATIENTS WITH CHRONIC KIDNEY DISEASE

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ABSTRACT

Background: Patients undergoing hemodialysis go through tremendous physical, psychological, emotional and financial stress of high order. Because of their dependency and disability, these patients may have suicidal ideations.

Materials and Methods: A total of 100 patients with end stage renal disease, undergoing hemodialysis in the dialysis unit of Katuri Medical College and Hospital were included in the study.

Results: Significant levels of depression were observed in the female gender. Suicidal intentions were higher in frequency among female patients undergoing HD compared to male patients, but high intent in severity was found among higher percentage of male patients.

Conclusion: Early identification and intervention for psychiatric manifestations in patients undergoing hemodialysis is a very crucial factor, which effects compliance of the patient and finale treatment outcome.

Keywords: Chronic kidney disease, dialysis, suicide, depression, quality of life.

INTRODUCTION

Chronic kidney disease is a condition marked by a gradual decrease in the function of both kidneys from where no improvement in renal function could be expected. Hemodialysis is a method of removing toxins that have accumulated in a patient's body as a result of the complete or partial loss of a functioning kidney.^[1] It is an artificial replacement for kidney function, particularly in cases of renal failure. Dialysis cannot replace lost kidney function completely, but it can manage its activities to some extent through diffusion and ultra-filtration.^[2]

Management of these conditions involves dietary adjustments, regular medications and regular dialysis or renal transplantation. The patient must adhere to a strict diet as well as multiple daily medications. The treatment is extremely expensive, and it also results in missed work days, putting financial strain on the patient and thus affecting their quality of life.^[3,4]

Researchers suggest that suicidal behavior may be related to environmental psychosocial factors, health status, and also to lack of coping strategies to reduce stress during the dialysis treatment.^[5] Moreover, patients who undergo dialysis often have a

psychological dependence on the dialysis machine and may experience a series of restrictions. As previous studies revealed adapting to dialysis is a difficult process that can lead to adverse psychological reactions such as psychotic-like episodes, major depression, and suicide attempts.^[6] Suicide is one of the most feared outcomes of depression among patients on hemodialysis.^[7] Suicide causes people, families, communities and countries to face a lot of economic, social and psychological pressures.^[8] Hence, it is impertinent to assess the rate of suicidal ideation and risk factors that increase the risk of suicide.^[9]

MATERIAL AND METHODS

This cross-sectional study was conducted in the hemodialysis unit of Katuri Medical College and Hospital, Guntur, over period of 1 year (from March 2022 to March 2023). The study included all patients who were undergoing hemodialysis and who gave informed consent for the study. Patients previously diagnosed with psychiatric illness before undergoing dialysis and terminally ill patients, were excluded from the study.

After obtaining approval from Institutional Ethics Committee and taking a written informed consent, a total of 100 patients undergoing dialysis in the Dialysis unit at Katuri Medical College and Hospital were taken for study.

Demographic details of patient were taken from the patient themselves and or the accompanying relative. The remaining variables such as age when hemodialysis began, duration of hemodialysis, and co-morbid status were obtained from medical case records.

The following questionnaires were used

1. The Mini International Neuro-Psychiatric Interview (M.I.N.I) is a YES or NO answer based questionnaire, used for major psychiatric disorders.
2. Beck's Suicidal Scale (BSS), developed by the University of Pennsylvania scores patient's suicidal intent as 15 to 19: Low Intent; 20 to 28: Medium Intent; and >29 as High Intent. There is also a greater risk of repeated attempts the higher the intent rating.

All the data obtained was tabulated and assessed by IBM SPSS V20 software. Continuous variables were outlined using frequency, mean and standard deviation while categorical variables were summarized using frequency and percentage. Means among groups were compared using independent t-test and proportions were compared using chi-square test. A p value <0.05 was considered statistically significant. Depression and Beck's suicidal severity were analyzed by applying an ANOVA test, independent t-test and chi-square test. Quality of life was analyzed by applying Pearson's Correlation.

RESULTS

A total of 100 patients were included in this cross-sectional observational study.

The study population was male predominant, with male: female ratio being 2:1. Majority of the study population was between 36 and 55 years of age (48%). 29% were between the 20 - 35 years and 23% were between 56-70 years. 84% of the total sample were married.

Majority of the study group were educated (82%) and the remaining 18% were illiterates. Of the educated group, 18% members have completed middle school, 15% completed their primary school, 14% completed high school, 12% completed PUC, 15% were graduates and 8% were post-graduates.

The majority of the patients in the sample (43%) are from the middle class. 18% belong to low socioeconomic status and 5% belonged to the upper socioeconomic class.

Most of the patients who presented to the hemodialysis unit during the study period were undergoing hemodialysis since 5 months to 1 year (51%). 35% of the patients had been receiving hemodialysis for 1-3 years, and 14% had been receiving hemodialysis for > 3 years.

72% of the participants had hypertension, and 28% had diabetes mellitus.

Severity of suicidal intention in patients undergoing hemodialysis

Severity of suicidal intention was graded as low level, medium level, high level based on the scoring obtained according to Beck's suicidal severity scale. Out of total sample of 100, 69% patients undergoing hemodialysis had no suicidal intentions and 31% patients (n=31) had suicidal intentions. Among the 31% patients who had suicidal intentions, 16% of patients had low intent, 7% of them had medium level of intent and 8% of the patients had high level of suicidal intent.

Among males and females, 79.7% male patients (n=55) had no suicidal intention and 20.3% female patients (n=14) were without any suicidal intentions.

Table 1: Severity of suicidal ideation among males and females

Suicidal Ideation	Male (%)	Female(%)	Total(%)
No Intent (<15)	55 (79.7)	14 (20.3)	69 (100)
Low intent (15 - 19)	4 (25)	12 (75)	16 (100)
Medium intent (20 - 28)	3 (42.8)	4 (57.2)	7 (100)
High Intent (>29)	6 (75)	2 (25)	8 (100)

Suicidal intentions were statistically significant in the 36-55 age group, with a P-value of 0.002.

Table 2: Age and suicidal ideation

Age	Suicidal Intention	Percentage	P – Value
< 35 Years	4	12.9%	0.002
36 - 55 Years	23	74.2%	
> 56	4	12.9%	

There was no statistical significance between SES and the severity of suicidal intentions (0.433).

Table 3: Suicidal ideation and socioeconomic status

Suicidal Ideation	Socioeconomic status					P- Value
	Upper(%)	Upper middle(%)	Lower middle(%)	Upper lower(%)	Lower(%)	
Low intent (15 - 19)	6	3 (18.7)	6 (37.5)	1 (6.3)	0	

	(37.5)					
Medium intent (20-28)	1 (14.3)	1 (14.3)	3 (42.8)	1 (14.3)	1 (14.3)	0.433
High Intent (>29)	0	1 (12.5)	4 (50)	1 (12.5)	2(25)	

The correlation between education and suicidal intention was a negative correlation with an 'r' value of -0.286 and with a statistically significant P-value of 0.023. A positive correlation was established between socioeconomic status and suicidal intentions with an 'r' value of +0.184 but with no statistical significance (P-value 0.433). Duration of HD was negatively correlated with suicidal intentions with an 'r' value of -0.348 and a significant P-value of 0.0001.

DISCUSSION

The current study aimed to know the severity of suicidal intentions in correlation with certain socio-demographic variables in the patients undergoing HD. Suicidal ideation were graded using standard scales (BSS).

The study sample 100, was male predominant population (n=68). Major percentage of the study sample belonged to age group of 36-55 years (n=48), and then age group <35 years with n=29, under age group of >56 years with n=23. Other variables like duration of hemodialysis, socioeconomic status and level of education were considered to derive results and conclusions.

There are not many studies regarding suicidal tendencies in HD as there are regarding depression, anxiety and QOL in HD. In the current study, suicidal intentions were found to be higher in frequency among females but the severity is higher among males. The correlation between suicidal intentions with socioeconomic status has got no statistical significance in the present study. Education had statistically significant negative correlation with suicidal intentions, thus indicating that as the level of education increases the suicidal intention decreases.

Sareen J et al,^[12] concluded in his study that anxiety disorder is an independent risk factor for subsequent onset of suicidal ideas. The patients with depression and anxiety disorder together have been found to predict the suicidal risk better than depression alone. In current study, suicidal intentions were found to be significantly higher in frequency (74.2%) among the age group of 36-55 years compared to other age groups. Keskin G et al,^[14] observed that suicidal ideation increased as the severity of depression and age of patients increased.

Religiosity was not considered in association with suicidal risk in present study. But Camila martini et al,^[15] and Ana Catarina et al,^[16] observed that religiosity of the patient was also evaluated as an influencing factor of suicidal risk.

Macaron, G et al,^[16] the prevalence of suicidal ideation as detected by the M.I.N.I. is at 37% which were higher compared to present study (31% in present study). Pompili M et al,^[17] in his systematic review posited that suicidal ideation, occurring in dialysis, may arise from co-morbid depression and psychiatric symptoms are frequent in patients who underwent dialysis. In the same study, he also

observed that patients who initially underwent dialysis within 0-3 months had a significantly increased risk of suicide.

In the present study, duration of HD had significantly negative correlation with suicidal intentions. Hence, the as the duration of HD increases, the suicidal intention decreases. Ming Chen et al,^[18] highlighted that suicide risk tended to be higher in the first year, particularly the first 3 months since initiation of dialysis. But many of the previous studies had not make a note on correlation pattern of suicidal intentions over the years of HD duration just like in the present study.

CONCLUSION

End stage renal disease is increasing at an alarming pace worldwide owing to lifestyle related conditions like diabetes and hypertension. Although, hemodialysis improves the life span in patients with ESRD, it comes with the cost of these patients going through depression, anxiety and suicidal intentions. Early identification of suicidal intention and taking necessary interventions is the need of hour in patients undergoing hemodialysis.

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