Psychological Parameters of Comfort Inpatients Undergoing Hemodialysis

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Abstract- *Comfort is a state of met basic human needs, mental and physical well-being, physical, mental and environmental comfort, and final state of nursing therapeutic actions, which permeate the states of relief, calm, and transcendence. These elements combine with each other to generate unique responses.Objectives: Objectives of the study were to assess the psychological parameters of comfort (stress, anxiety, depression) in patients undergoing hemodialysis and to find out the association between psychological parameters of comfort with sociodemographic and clinical data of hemodialysis patients. Materials and Methods: A quantitative research approach and exploratory research design was used to assess psychological parameters of comfort in patients undergoing hemodialysis. Total 84 patients were selected bynon-probability convenience sampling technique for the research study. Perceived Stress Scale, Hamilton Anxiety Scale and Hamilton Depression Scale were used for assessing the psychological parameters of comfort.Data was analysed using descriptive and inferential statistics using SPSS (version 25).Results: During assessment of the psychological parameters, maximum hemodialysis patients 81% had mild anxiety,63.1% were mild symptoms of depression and56% of patients were having moderate stress. In association of PSS score with clinical variable, daily activity of patients was significantly associated at 0.05 level of significance. HAS score was significantly associated with sociodemographic variables, marital status($\chi2=7.198$, $df=2$, $P=0.02$) and education level of patients ($\chi2=7.198$, $df=2$, $P=0.02$) and also associated with clinical variable comorbid conditions of patients($\chi2=7.198$, $df=2$, $P=0.02$). HDS score was significantly associated with sociodemographic variables like, education level ($\chi2=9.752$, $df=4$, $P=0045$) and monthly income of the patients($\chi2=14.314$, $df=6$, $P=0.026$) and also associated with clinical variables, types of diet ($\chi2=27.891$, $df=2$, $P=0.00$) and payment source of patients($\chi2=6.132$, $df=2$, $P=0.047$).Conclusion The study concluded that psychological parameters such as stress, anxiety and depression were prevalent among patients undergoing hemodialysis treatment. Hence, nurse working in the hemodialysis units requires more attention in considering the psychological aspects of these patients inorder to provide comprehensive nursing care to the patients and improving their comfort.*

Keywords- Comfort, Psychological parameters, Hemodialysis, Patients.

I. INTRODUCTION

Renal Disease constitutes a progressive, debilitating, chronic illness requiring nursing and medical interventions. The occurance of renal disease affects the quality of life of patients, probably impacting physical and mental health, functional status, and independence. [1] In 2017, worldwide an estimated 843.6 million individuals affected by renal disease.[2]

Every year, nearly 220000 individuals are diagnosed with end-stage renal disease, which puts an additional demand of 34 million dialysis sessions in India.[3] It was estimated that nearly 1,75,000 patients have been on chronic dialysis, giving an occurrence of 129 in keeping with million population in 2018.[4]

However, the prevalence of significant chronic kidney disease is around 8.9% of the Gujarat state population and city-based revelation said that roughly 5 lakh people in Ahmedabad are estimated to suffer from a kidney disorder.[5]

Chronic Renal failure is a constant psychological process for patients and their families in order to receive their new image and to be bounded with new condition of hemodialysis. The quality of life of patients on dialysis are most likely affected, since it is associated with changes in their daily habits and in their lifestyle for both themselves and their families. Along with this, the patient's physical health, their functional status, their personal relationships and their social and economic status are significantly affected.[6]

Haemodialysis is the most frequent treatment method for renal failure. Which leads that a number of restrictions and modifications related to this treatment. Hence, affect individuals' physical and psychological well-being.[7]

Chronic kidney disease is a global health problem with a high economic burden on the health-care system. Considering the chronic nature of disease patients undergoing

hemodialysis are at risk of developing psychiatric disorders.[8]Some study indicate that, anxiety and depression are worse in patients on hemodialysis and patients in treatment for <3 years presented the greatest anxiety and depression.[9]

Certain literature indicated that,incidence of psychiatric illness among renal disease patients on hemodialysis is high. The most prevalent psychiatric disorders includesdepression and anxiety among these patients.[10, 11] So, the need was felt to study on psychological parameters of comfort in patients undergoing hemodialysis.

RESEARCH HYPOTHESES

- **H_1:** There will be significant correlation between physiological and psychological parameters of comfort in patients undergoing hemodialysis at 0.05 level of significance.
- **H_2:** There will be significant association between psychological parameters of comfort (**stress, anxiety, depression**) with clinical data of hemodialysis patients.

II. MATERIALS AND METHODS

A quantitative research approach with exploratory research design was used to assess psychological parameters of comfort in patients undergoing hemodialysis. Total 84 patients participated in the research study. Patients admitted in dialysis unit of Parul Sevashram Hospital, Vadodara were considered as sample for the present study. Structured questionnaire was used to assess sociodemographic and clinical data, Perceived Stress Scale, Hamilton Anxiety Scale, and Hamilton Depression Scale were used for assessing the psychological parameters of comfort[12-17] and their reliability values were Perceived stress scale (PSS) r =0 .85, Hamilton anxiety rating scale (HARS) r = 0.77 to 0.92, Hamilton depression rating scale (HDRS) r =0.81.Prior to data collection written permission was obtained from the concerned authorities. The study was conducted in selected hospital, Vadodara. Patients who were undergoing hemodialysis and fulfilled the criteria were selected as sample by using Non Probability convenience sampling technique. Data was collected from patients by structured interview method after getting their consent.Data was analysed using descriptive and inferential statistics using SPSS (version 25).Descriptive statistics included frequency and percentage to assess psychological parameters of comfort (stress, anxiety, depression) in patients undergoing hemodialysis. Inferential statistics like chi-squarewas used to find out the association of psychological parameters with sociodemographic and clinical data of hemodialysis patients.

III. RESULTS

The data were tabulated in Microsoft excel spread sheet and analysis was done using descriptive and inferential statistics using SPSS according to the objectives of the study.

Data is presented on following section in accordance with the objectives:

SECTION I: Distribution of patients according to their sociodemographic data.

SECTION II: Distribution of patients according to their clinical data.

SECTION III: Distribution of patients according to their Psychological parameters of comfort (**stress, anxiety, depression).**

SECTION IV: Association between psychological parameters of comfort with sociodemographic data in patients undergoing hemodialysis.

SECTION V: Association between psychological parameters of comfort with clinical datain patients undergoing hemodialysis

SECTION I- Distribution of patients according to their sociodemographic data

Table 1: Frequency and Percentage distribution of patients according to their sociodemographic data

N=84

DEMOGRAPHIC VARIABLE		**Frequency (f)**	**Percentage (%)**
Age (In Years)	18-27	10	11.9
	28-37	25	29.8
	38-47	13	15.5
	48-57	24	28.6
	58-67	12	14.3
Gender	Male	59	70.2
	Female	25	29.8
Marital Status	Married	63	75.0
	Unmarried	10	11.9
	Separated/Divorced	5	6.0
	Widowed/Widower	6	7.1
Education	Formal education	52	61.9

Level	Bachelor	15	17.9
	No formal education	17	20.2
Employment Status	Private employee	9	10.7
	Self-employee /Businessman	14	16.7
	Unemployed	52	61.9
	Labourer	9	10.7
Monthly Income (In Rs.)	<5000	5	6.0
	5001-10000	50	59.5
	10001-15000	22	26.2
	>15000	7	8.3

Table 1 Reveals frequency and Percentage distribution of patients according their sociodemographic data. Result shows that majority of patients 25(29.8%) were between 28-37 years and only 10(11.9%) of patients were found between the age group 18-27. Majority of the patients 59(70.2%) were male and 25(29.8%) were female. In relation to marital status, maximum numbers of patients 63(75%) were married. According to education level maximum numbers of patients 52(61.9%) were having formal education. In terms of employment status maximum numbers of patients 52(61.9%) were unemployed. Majority of patients 50(59.5%) had monthly income 5001-10000rs.

SECTION II- Distribution of patients according to their clinical data.

Results show that maximum numbers of patients 25(29.8%) were found between 40-49 kg only 5(6%) of patients were found between the weight groups 30-39 kg. Majority of the patients 56(66.7%) living with comorbid condition (like, cardiovascular disease, diabetes mellitus, hypertension and any other) and 28(33.3%) were without comorbid conditions and from that maximum 38.1% had hypertension. According to duration of dialysis treatment maximum numbers of patients 59.5% were taken dialysis treatment from 1-5 years. 96.4% patients attend dialysis session for 3-4 hours. Regarding to types of diet of patients 53.6% were taken veg and non-veg food. According to daily intake of patients majority 57.1% were taken 701-1000ml fluid, and only1.2% patients were taken less than 200ml fluid, maximum 38.1% were 51-150ml urine excretion, 76.2% patients paid through Ayushman card. Regarding to position of patients during dialysis majority of patients 69% were situated in semi fowler's position.Total 73.9% patients were used different comfort devices and 26.2% were not used any comfort devices. Maximum 83.3% patients did not do any activities, 16.7% did daily activities like yoga, walking and exercise.

SECTION III-Distribution of patients according to their Psychological parameters of comfort (stress, anxiety, depression)

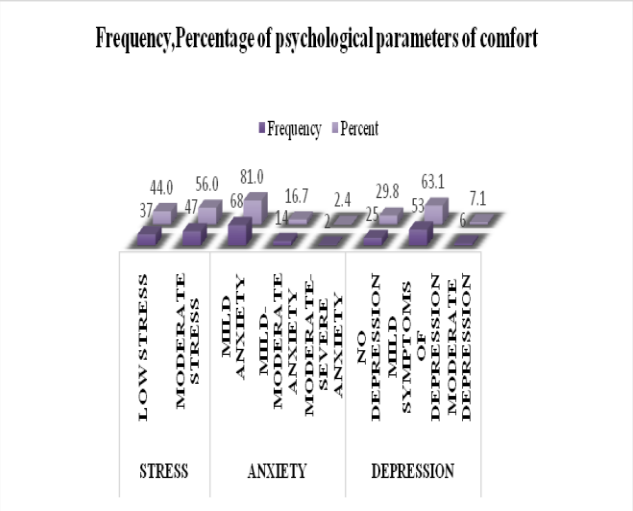

Figure: 1Frequency, Percentage distribution of patients according their psychological parameters of comfort

Figure 1 Represent that Frequency and Percentage distribution of Psychological parameters of comfort (**stress, anxiety, depression**). Results show that maximum 56% of patients were having moderate stress and only 44% patients were in low stress. According to anxiety of patients majority of 81% had mild anxiety, 16.7% had mild – moderate anxiety and only 2.4% had moderate-severe anxiety. With regards to depression of patients maximum 63.1% were mild symptoms of depression, only 7.1% were moderate depression and 29.5% had no depression.

SECTION IV- Association between psychological parameters of comfort with sociodemographic data.

Association between HAS (Hamilton Anxiety Scale) score with sociodemographic data in patients undergoing hemodialysis.

Results showed that selected sociodemographic variable marital status (**$\chi 2=7.198$,df=2, P=0.02)** and education level (**$\chi 2=7.198$, df=2, P=0.02)** were found statistically significant association with HAS score in patients undergoing hemodialysis and were found significant at $p<0.05$ level of significance. Other sociodemographic variables age, gender, employment status and monthly income were statistically not-significant at $p<0.05$ level with HAS score in patients undergoing hemodialysis.

Association between HDS (Hamilton Depression Scale) score with sociodemographic data in patients undergoing hemodialysis.

Results showed that sociodemographic variable education level (**$\chi 2=9.752, df=4, P=0045$**) and monthly income (**$\chi 2=14.314, df=6, P=0.026$**) were found statistically significant association with HDS score in patients undergoing hemodialysis and was found significant at $p<0.05$ level of significance. Other sociodemographic variables such as, age, gender, marital status and employment status were statistically not-significant at $p<0.05$ level with HDS score in patients undergoing hemodialysis.

There was PSS score statically not-significant with sociodemographic variables like Age, Gender, Marital status, Education level, Employment status and Monthly income at $p<0.05$ level in patients undergoing hemodialysis.

SECTION V- Association between psychological parameters of comfort with clinical data in patients undergoing hemodialysis.

Results showed that the clinical variable, daily activity (**$\chi 2=5.111, df=1, P=0.024$**) was found statistically significant association with PSS score in patients undergoing hemodialysis and was found significant at $p<0.05$ level of significance. Other clinical variables such as, Weight, Comorbid conditions, Types of diet, Duration of dialysis treatment, Duration of dialysis session, Daily intake, Daily output, Payment source, Positions and Comfort devices were statistically not-significant at $p<0.05$ level with PSS score in patients undergoing hemodialysis.

Association between HAS (Hamilton Anxiety Scale) score with clinical data in patients undergoing hemodialysis.

Results showed that selected clinical variable any other comorbid conditions (**$\chi 2=7.198, df=2, P=0.02$**) was found statistically significant association with HAS score in patients undergoing hemodialysis and was found significant at $p<0.05$ level of significance. Other clinical variables such as, Weight, Comorbid conditions(Cardiovascular disease, Hypertension and Diabetes mellitus), Types of diet, Duration of dialysis treatment, Duration of dialysis session, Daily intake, Daily output, Payment source, Positions, Comfort devices and Daily activity were statistically not-significant at $p<0.05$ level with HAS score in patients undergoing hemodialysis.

Association between HDS (Hamilton Depression Scale) score with clinical data in patients undergoing hemodialysis.

Results showed that selected clinical variable like types of diet (**$\chi 2=27.891, df=2, P=0.00$**) payment source (**$\chi 2=6.132, df=2, P=0.047$**) were found statistically significant association with HDS score in patients undergoing hemodialysis and was found significant at $p<0.05$ level of significance. Other clinical variables such as, Weight, Comorbid conditions, Duration of dialysis treatment, Duration of dialysis session, Daily intake, Daily output, Positions, Comfort devices and Daily activity were statistically not-significant at $p<0.05$ level with HDS score in patients undergoing hemodialysis.

IV. DISCUSSION

The present study communicated that 44% patients were low stress and 56% were moderate stress. Maximum numbers of patients 81% were mild anxiety, 16.7% were mild – moderate anxiety and only 2.4% patients were moderate-severe anxiety. Maximum numbers of patients 63.1% were mild symptoms of depression, only29.5% were no depression and 7.1% were moderate depression.

The similar descriptive cross-sectional survey conducted by Kailash Nagar, et al, on Depression, Anxiety and Stress among the Patient of Chronic Kidney Disease in 2021. Results revealed that, according to incidence rate of Depression, Anxiety and Stress, 9(30%) were suffering from mild symptoms of Depression, Anxiety and Stress, 15(50%) were suffering from moderate symptoms of Depression, Anxiety and Stress, 6(20%) were suffering from severe symptoms of Depression, Anxiety and Stress. The study result concluded that the majority (50%) of Patients having moderate level of depression, anxiety and stress. The people in age group 41-50 or above 50 are having higher rate of depression, anxiety, and stress during chronic kidney disease.[18]

The present study communicated that, in association of PSS score with clinical variable daily activity of patients was significantly associated at 0.05 level of significant. HAS score was significantly associated with sociodemographic variables, marital status($\chi 2=7.198$, df=2, P=0.02) and education level of patients ($\chi 2=7.198$, df=2, P=0.02) and also associated with clinical variable comorbid conditions of patients($\chi 2=7.198$, df=2, P=0.02) . HDS score was significantly associated with sociodemographic variables like, education level ($\chi 2=9.752$, df=4, P=0045) and monthly income of the patients($\chi 2=14.314$, df=6, P=0.026) and also associated with clinical variables, types of diet ($\chi 2=27.891$, df=2, P=0.00) and payment source of patients($\chi 2=6.132$, df=2, P=0.047).

Carlos J. Delgado-Domínguez et.al, conducted multi-centre prospective cross-sectional study Influence of Depression and Anxiety on Hemodialysis Patients: The Value of Multidisciplinary Care in 2021. Study results showed that, Male sex (Dep: OR 0.2; Anx: OR 0.3) were significantly associated to the presence of these mental disorders (all variables described presented p-values < 0.01). While having a partner (OR 0.3; p = 0.025) were associated with a lower presence of this condition.[19]

V. CONCLUSION

Sociodemographic variables such as, marital status, education level, monthly income and clinical variables such as, daily activity, comorbid condition, diet and payment source were affecting the psychological parameters of comfort in hemodialysis patients. Hence, these variables must be considered during hemodialysis treatment of patients. To improve comfort in patients, psychological parameters such as anxiety, stress and depression need to be taken into account in patients undergoing hemodialysis.

DISCLAIMER

The research was not funded by any internal or external agency, rather it was funded by personal efforts of the authors.

CONSENT AND ETHICAL APPROVAL

The required ethical clearance were obtained for the conduction of the study from the concerned ethical committee of the institution (PU-IECHR/PIMSR/00/081734/4104), and also individual informed consent was obtained from the patients of the dialysis unit.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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