Stress and Coping among Indian Haemodialysis Patients

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ABSTRACT

Background: Chronic kidney disease does not usually cause symptoms until it reaches an advanced stage. During the progression of the disease, the patients experiences some of the common symptoms like lack of energy, difficulty concentrating, poor appetite, insomnia, muscle cramping, edema , dry skin, increased urinary frequency, bruising, shortness of breath, and bone pain. *Aim:* To assess the level of stress and coping among Indian patients subjected to hemodialysis at Dialysis unit. *Design:* A cross sectional descriptive research design was adopted. *Methods:* Sixty patients were selected using convenient sample from the dialysis unit of tertiary care hospital, South India. Study participants were completed the questionnaire on stress and coping. Both descriptive and inferential statistics were used to analyze the data. *Results:* Among patients subjected for dialysis, 39 (65.00%) of the study participants were having mild stress and 12(20.00%) of the study participants were having moderate stress. The study also revealed that 38(63.3%) of the participants were never had coping whereas 22(36.7%) of them had sometimes coping. *Conclusion:* Negative correlation between the level of stress and coping among the patients subjected to dialysis insist on intervention to overcome the stress thereby coping with the present condition

KEY WORDS

Stress, coping, haemodialysis, dialysis unit, chronic kidney disease

INTRODUCTION

Chronic kidney disease (CKD) is life-threatening. Chronic kidney disease is a condition characterized by a gradual loss of kidney function over time(National Kidney Foundation, 2015). When the kidneys do not function sufficiently, patients with Stage 5 CKD have three choices of therapy: hemodialysis (HD), peritoneal dialysis, or kidney transplantation (Crawford & Lerma, 2008). Dialysis patients need to deal and cope with various aspects of their disease. Hemodialysis patients are exposed to different stressful factors and have to use coping strategies as supportive processes. Dialysis treatment imposes many challenges and difficulties for patients and their families, who often require new and different ways of coping. Lifestyle is markedly impacted by the complex therapy, and such experiences require patients to adapt to a new way of living (Curtin, Bultman, Thomas Hawkins, Walters, & Schatell, 2002).

The overall magnitude and pattern of chronic kidney disease in India has been studied sporadically (Jha, V., 2004).Agarwal et al., (2005) found low glomerular filtration rate (defined as serum creatinine> 1.8 mg/dl) in 0.8% of 4972 subjects surveyed in Delhi. These data stand in contrast to data from the developed world, where large population-based surveys have shown the prevalence of CKD to be about 12-20% (Gambaro G, et.al. 2010). There are no national or regional reports on incidence or prevalence of either CKD or end-stage renal disease (ESRD).About 48% of cases were in stage V at presentation, with the remaining in decreasing order of frequency in lower stages. Because of the daily challenges patients on hemodialysis experience, understanding the challenges is essential for nurses working in dialysis, as is especially understanding how patients cope with stressors.

MATERIALS AND METHODS

A cross sectional descriptive research design was used. The study was conducted in a dialysis unit of tertiary care hospital at south India. The dialysis unit has 25 beds and patients were subjected for HD throughout the day in three shifts.The sample included 60 patients with chronic kidney disease subjected for HD in the dialysis unit. A non-probability convenient sampling technique was used to recruit the study participants. The patients above the age of 21 years subjected for haemodialysis were included in the study. Patients with cognitive impairment and neurological disease such as Myasthenia gravis, Parkinson's disease were excluded from the study. The tools developed for the data collection were background variables and stress scale. The structured questionnaire on coping scale developed by Jelowice, M .,also used tocollect data from the study participants. The data were collected from the study participation through interview method.

The background variables used for the data collection includes demographic variables such as age, gender, education, occupation, monthly income, residence and family type and clinical variables such as duration of illness, co-morbid condition and body mass index (BMI). The stress scale is a structured questionnaire which has questions related to stress factors of life such as physical stressors, psychological stressors and socio-economic stressors. This stress scale for patients was developed by the investigator through literature review and modified to suit population and socio cultural background.

The stress scale for patients consists of 25 items with 5 point rating scale for response of patients' i.e. not stressful, very mild, mild, moderate and severe. The maximum score is 100. The score was interpreted as; not stressful (0.00%), very mild stress (1-25.00%), mild stress (26-50.00%), moderate stress (51-75.00%) and severe stress (≥76.00%). Coping scale consists of 15 statements and the response was collected using three point scale ranging from never, sometimes and always. The maximum score was 45. The score was interpreted as never(0-33%), sometimes (34%-66%) and always (≥ 67%).The reliability of the stress scale was found using spilt-half technique and the reliability score was 0.71.

ETHICAL CONSIDERATIONS

The study was conducted with the approval from the Institutional Ethical Committee. Permission from the Head of the department, Department of Nephrology was obtained to collect data from the study participants in dialysis unit of tertiary care hospital. Study participants were clearly explained about the purpose of the study and a written informed consent was obtained before conducting the study. Confidentiality of the responses were assured and maintained throughout the study.

The pilot study was conducted with 10 patients and the results showed that to be feasible to conduct the study. The main study was conducted from 60 patients using background variables, stress and coping using interview method to collect the data. The data were analyzed using descriptive and inferential statistics. The descriptive statistics such as Frequency, percentage, mean and standard deviation were used to analyze the baseline variables and the level of stress and coping. Inferential statistics such as chi square was used to find out the association between background variables and stress and coping.

RESULTS

Description of demographic variables:

Table 1: Frequency, percentage distribution and chi-square value of demographic variables among the patient subjected to HD (N=60)

Sl. No	Demographic variables	No.	%	χ2 and p value
1.	**Age (in years)**			
	a. 21-30	8	13.00	2.743
	b. 31-40	10	17.00	0.037*
	c. 41-50	18	00.00	
	d. 51-60	16	27.00	
	e. >60	8	13.00	
2.	**Gender**			
	a. Male	44	73.00	2.517
	b. Female	16	27.00	0.118
3.	**Education**			
	a. No formal education	1	2.00	0.909
	b. Primary education	10	17.00	0.443
	c. Higher secondary	32	53.00	
	d. Collegiate	17	28.00	
4.	**Occupation**			
	a. Retired	17	28.00	5.290
	b. Employed	10	17.00	0.003**
	c. Unemployed	12	20.00	
	d. Not working due to present health status	21	35.00	
5.	**Monthly income (in Rs.)**			
	a. <10,000	11	18.00	0.338
	b. 10,000-20,000	34	57.00	0.798
	c. 20,000-30,000	13	22.00	
	d. >30,000	2	3.00	
6.	**Residence**			
	a. Urban	40	67.00	0.812
	b. Rural	2	3.00	0.449
	c. Sub-urban	18	30.00	
7.	**Family type**			
	a. Nuclear family	8	13.00	0.212
	b. Joint family	52	87.00	0.647

*p<0.05, **p<0.01

Table 2: Frequency, percentage distribution and chi-square value of clinical variables among patients subjected to HD (N=60)

Sl. No	Clinical Variables	No.	%	χ2 and p value
1.	**Duration of illness**			
	a. 6 months	7	11.00	1.392
	b. 6 – 1 year	14	23.00	0.249
	c. 1 – 3 years	25	42.00	
	d. 3 – 5 years	10	17.00	
	e. >5 years	4	7.00	
2.	**Co- morbid condition**			
	a. CVD	1	2	2.107
	b. COPD	0	0	0.110
	c. DM	2	3	
	d. HTN	47	78	
	e. Any Other	10	17	
3.	**Body mass index**			
	a. <18	0	0	2.754
	b. 18 – 25	27	45	0.425**
	c. 25 – 30	30	50	
	d. >30	3	5	

Table 3. Frequency and percentage distribution of the level of stress among patients subjected to HD (N=60)

Level of stress	No.	%
Not Stressful (0%)	0	0
Very Mild Stress (1-25%)	8	13.3
Mild Stress (26-50%)	39	65.0
Moderate Stress (51-75%)	12	20.0
Severe Stress (>76%)	1	1.7

Table 3 illustrated the frequency and percentage distribution of the level of stress among patients subjected to HD. 39(65.00%) of the participants were having mild stress whereas 12(20.00%) of them were having moderate stress and only one (1.7%) had severe stress.

Table 4.Frequency and percentage distribution of the level of coping among patients subjected to HD (N=60)

Level of coping	No.	%
Never (0-33%)	38	63.3
Sometimes (34%-66%)	22	36.7
Always (>67%)	0	0

Table 4 illustrated the frequency and percentage distribution of the level of coping among patients subjected to HD. 38(63.3%) of the participants were never had coping whereas 22(36.7%) of them had sometimes coping

Table 5. Correlation between stress and coping among patients subjected to HD (N=60).

	Mean	SD	r-value
Stress	39.80	13.425	
Coping	12.95	4.623	-.271***

*** $P<0.001$ level

Table 5 shows the correlation between stress and coping ability among the patients subjected to hemodialysis. The Pearson's correlation co-efficient value was r=-0.271, which shows a significant negative correlation that patients, who experience high stress had poor coping abilities which was statistically significant at p <0.001.

Association of stress with selected demographic variables

There was a significant association found between the stress and age and occupation of the study participants. There was no significant association found between the stresses and coping with selected clinical variables.

DISCUSSION

Distribution of the level of stress among patients subjected to HD showed that 39(65.00%) of the participants had mild stress whereas 12(20.00%) of them had moderate stress. Similar findings was noted by Udayakumar, T.R., et al (2003) found that chronic hemodialysis patients (CHD) mean stress score (%) in "Physical Aspect" was 76.5 ± 4.14. Regarding "Psychological Aspect" the mean score (%) was 81.09 ± 4.53 in the CHD patients.

Cristóvão, F.,(1999) results showed that patients perceived high levels of stress, and that psychosocial stressors are as problematic as the physiological ones. Patients used problem-oriented coping methods more often than affective-oriented methods. Although their quality of life was satisfactory, patients were dissatisfied about their physical well -being.

Al Nazly, E.A., (2013) conducted a qualitative study on hemodialysis stressors and coping strategies among Jordanian patients on HD, Participants reported food and fluid restrictions as part of hemodialysis treatment stressors, although some reported continuous attempts at compliance to avoid any life-threatening side effects. Participants relied on God to help them cope with day-to-day hemodialysis-related stressors, as revealed by the open-ended interviews.

Parvan K., et al found that the mean score of frequency of use of the coping strategy as "sometimes used" for the HD patients was 70.94 ± 18.91 and also for PD patients as "seldom used" was 58.70 ± 12.66. The mean score of helpfulness of coping strategies in the HD group was 49.57 ± 19.42 as "slightly helpful", whereas in the PD group it was 37.21 ± 14.38 as "slightly helpful".

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CONCLUSION

The current study found that patient subjected to hemodialysis experienced more stress, such as physical and socio-economic aspects and inadequate coping ability to overcome the stress.

Nursing implications:

The nurses working in the dialysis unit are in the best position to understand the problems of patients. The main objective should be towards reduction of stress and improving the coping abilities of patients subjected to haemodialysis Nurses in dialysis unit should provide support, information, alternative solution and assist the patient to utilize better problem solving methods to enhance their quality of life. Skill oriented curriculum can be prepared for nurses working in nephrology units to prepare them to care for patient subjected to dialysis. Nursing conference and in-service education programme can be organized on dialysis. The nurses can be motivated by the nursing educators and administrators to conduct research on alternative therapy for dialysis coping strategies and to implement it in practice by providing monitory and functional support for conduct research.

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