



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

*International Journal of Recent Scientific Research*  
Vol. 9, Issue, 4(J), pp. 26227-26231, April, 2018

**International Journal of  
Recent Scientific  
Research**

DOI: 10.24327/IJRSR

## Research Article

### STRESS AND COPING IN PATIENTS UNDERGOING MAINTENANCE DIALYSIS: IMPLICATIONS FOR NEPHROLOGY SOCIAL WORK

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DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0904.2016>

#### ARTICLE INFO

##### Article History:

Received 5<sup>th</sup> January, 2018  
Received in revised form 20<sup>th</sup>  
February, 2018  
Accepted 8<sup>th</sup> March, 2018  
Published online 28<sup>th</sup> April, 2018

##### Key Words:

*Stressors, Coping Strategies, Maintenance dialysis, Chronic Kidney Disease*

#### ABSTRACT

Chronic renal failure or Chronic Kidney disease (CKD) is a condition threatened by many potential losses and changes in lifestyle. As the disease progresses, such patients physically may not be able to cope up and as such use various strategies to deal with the challenges related to their disease and the associated treatment procedures. The objectives of this study were i) to study the socio-demographic characteristics of the respondents ii) to assess the levels of stress and the coping strategies used by CKD patients who were on maintenance Hemodialysis and ii) study the relationship between stress and coping and their background characteristics. The sample consisted of 50 CKD patients who were on maintenance dialysis in Nephrology ward, Sri Venkateswara Institute of Medical Sciences, Tirupati. Measures such as Perceived Stress Scale (Sheldon Cohen, 1983) and Brief Cope (Carver, 1997s) were used to know the levels of stress and coping among the participants. The study results revealed a statistically significant relationship (at 0.05) level between patients occupation, income and Stress. The results also revealed a significant relationship (at 0.000 level) between patients Coping styles and their living arrangements, and an overall significant relationship was found between Stress and Coping at 0.05 level. The present study concludes with the need for preparing patients for effectively coping with their disease condition and implications for social work intervention are also mentioned.

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#### INTRODUCTION

Chronic kidney disease is a health crisis affecting 10% of population worldwide. One reason is the rapidly increasing worldwide incidence of diabetes and hypertension. In India, given its population >1 billion, the rising incidence of CKD is likely to pose major problems for both healthcare and the economy in future years. Indeed, it has been recently estimated that the age-adjusted incidence rate of ESRD in India to be 229 per million population (pmp), and >100,000 new patients enter renal replacement programs annually in India, (Ajay K. Singh et.al 2013)

Chronic kidney disease (CKD) is a life-threatening situation characterized by a gradual loss of kidney function over time (Maria Juliana & Porkodi Arjunan, 2015) where in patients have three choices of therapy: hemodialysis (HD), peritoneal dialysis, or kidney transplantation. These patients encounter

stresses related to treatment such as pain, feeling unrest, limitation of food and liquid intake, fatigue, weakness, depression, feeling of inadequacy and others. Patients also face limitations on time and place related to employment, transport, loss of bodily function, duration of dialysis treatment, and limitations on physical activities (Shu-Chuan Jennifer Yeh & Hsueh-Chih Chou, 2007 and Mahboobeh Nasiri et.al 2013).

Muyyad M. Ahmad & Eman Nazly (2014) observed that in CKD patients psychosocial stressors were higher than physical stressors, and focusing attention on these stressors by adapting proper coping strategy helps to alleviate their stress. It is also mentioned in literature that optimism is one of the most commonly used defense mechanism (Kochuthre Slatma Thomas, 2006; Camellia Soponaru 2016) by CKD patients and planning interventions such as individualized teaching, counseling, and supportive programs has been suggested by

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some researchers (Zahra Shahrokhi, 2014; Sonali & Premila, 2014; Kobra Parvan *et.al* 2017) as they help to promote better adaptation and treatment adherences and reduce the psychological burden in CKD patients.

Research studies (Mahadeo Shinde & Supriya Patil Mane and Iman Nazly & Muyyad, 2014; Mahboobeh Nasiri *et.al* 2013 & Lori Horwood *et.al*, 2009 ; ) also show that having knowledge regarding the stressors and coping skills among the individuals with early stage of Chronic Kidney Disease (CKD) will be advantageous in delivery of services and supportive intervention for these individuals.

Researchers (Maria Juliana & Porkodi Arjunan, 2015; Marina Kohlsdorf, 2015; Zahra Shahrokhi, 2014; Mahaboobeh Nasiri *et.al* 2013; Lori Horwood *et.al* 2009) have focused on relationship between Stress and Coping and also mentioned about use of coping strategies such as Problem-Oriented and Emotion-Oriented by patients to ease their stressors, (Kakuya *et.al* 2017; Marina Kohlsdorf, 2015; Paulo Roberto Santos, 2010; Shu-Chuan Jennifer Yeh & Hsueh-Chih Chou, 2007).

Given the above scenario the role of a professional social worker in making the patients accept the illness i.e. Chronic Kidney Disease (CKD) and helping them to adopt constructive coping mechanisms will help in achieving healthy outcomes. In light of the above this study was envisaged with the following objectives.

#### Objectives

1. Study the Socio-demographic characteristics of the patients undergoing maintenance Dialysis
2. Study the Stress levels and Coping strategies used by CKD patients undergoing maintenance Dialysis
3. Study the relationship between the socio-demographic variables and Stress & Coping of CKD Patients.
4. Draw implications for Nephrology Social Work.

#### Sample Size

Patients with CKD (Chronic Kidney Disease) who were undergoing maintenance Dialysis were selected for this study. A total of 50 (CKD) patients were interviewed in Nephrology Ward, SVIMS, and Tirupati.

#### Research Design

Descriptive Research Design was used to analyze the parameters selected in this study.

#### Tools for Data Collection

1. Socio-demographic Profile sheet
2. Global Perceived Stress Scale (Sheldon Cohen; Tom Kamarck; Robin Mermelstein, 1983): This scale consists of 14 items. Seven out of the fourteen items of PSS-14 are considered negative (1, 2, 3, 8, 11, 12, 14) and the remaining seven as positive (4, 5, 6, 7, 9, 10, 13), representing perceived helplessness and self-efficacy, respectively. Each item is rated on a five point Likert-type scale (0 = never to 4 = very often). Total scores are calculated after reversing positive items' scores and then summing up all scores. Total scores for PSS-14 range from 0 to 56 (from 0 to 40 and from 0 to 16, for PSS-10 and PSS-4, respectively). A higher score indicates greater stress.

PSS scores are obtained by reversing the scores on the seven positive items, e.g.; 0=4, 1=3, 2=2, etc., and then summing across all 14 items. Items 4, 5, 6, 7, 9, 10 and 13 are positively stated items.

#### Brief Cope (Carver, 1997)

BRIEF COPE (C.S. Carver, 1997) is the abbreviated version of the COPE Inventory. It consists of 28 items, eliciting 14 different methods of coping such as Self-distraction (items 1 and 19; Active coping, (items 2 and 7); Denial, items 3 and 8); Substance use, items 4 and 11 Use of emotional support, items 5 and 15; Use of instrumental support, items 10 and 23; Behavioral disengagement, items 6 and 16; Venting, items 9 and 21 ; Positive reframing, items 12 and 17; Planning, items 14 and 25; Humor, items 18 and 28; Acceptance, items 20 and 24; Religion, items 22 and 27 and Self-blame, items 13 and 26. There is no overall score on this measure. Each sub scale is rated on a scale of 0, 1, 2, and 3. Scales are computed by summing up the relevant item in each method of coping.

The above scales were translated into vernacular language before interviewing the patients and their families.

#### Method of Data Collection

Interview method was used to collect data from the selected subjects. Consent was obtained from the patient(s) and their families and then the required information was collected.

#### Statistical Analysis

Descriptive statistics was used to describe the socio-demographic variables and inferential statistics of correlation co-efficient test was used to know the relationship between the selected parameters.

## RESULTS & DISCUSSION

**Table 1** Socio-demographic details of respondents

Variables	Frequency	(%)
<b>Age Group</b>		
10-30	8	(16)
31-60	23	(46)
61-90	19	(38)
<b>Gender</b>		
Male	36	(72)
Female	14	(28)
<b>Education</b>		
Below SSC	11	(22)
Intermediate	14	(28)
Graduation	12	(24)
Post-Graduation	1	(2)
Others (No Formal Education)	12	(24)
<b>Occupation</b>		
Private	5	(10)
Government	22	(44)
Business	2	(4)
Others	21	(42)
<b>Income (in Indian rupees)</b>		
Below 5000	5	(10)
5000-10000	14	(28)
10000-20000	11	(22)
20000 above	18	(36)
Others (no income)	2	(4)
<b>Marital Status</b>		
Married	33	(66)
Widow	3	(6)
Others	14	(28)
<b>Living arrangements</b>		
With spouse	33	(66)
Living alone	4	(8)
Living with Children	13	(26)

The table 1 shows that, 38% patients belong to age group of 61-90 years, 46% belong to 31-60 age group and 16% patients belong to age group 10-30. With regard to the gender, majority of the patients were male 36%, while 14% were female. The education status of the respondents indicated that 22% had completed primary education, while 28% had completed intermediate, 24% had completed graduation and 24% had no formal education. With regard to living arrangements 66% of patients are living with their spouse and 26% of patients are living with their children. Pertaining to their monthly income level, 36% of patients have good income levels (20,000 above) while 10% had poor income.

**Table 2** Level of Stress among the patients undergoing maintenance Dialysis

	Category	Frequency	Percentage
1.	Mild	0	0%
2	Moderate	12	24%
3	Severe	38	76%

The above table no.2 shows that 76% of patients had severe stress while 24% have moderate stress.

**Table 3** Frequency and Percentage distribution of Patients undergoing maintenance Dialysis with regard to Positive stress

S.No.	Category (Positive Stressors)	Almost Never Frequency (%)	Sometimes Frequency (%)	Fairly often Frequency (%)	Very often Frequency (%)
1.	In the last month, how often have you dealt successfully with irritating life hassles	26 (52)	18 (36)	4 (8)	2 (4)
2	In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life	31 (62)	12 (24)	7 (14)	0
3	In the last month, how often have you felt confident about your ability to handle your personal problems	33 (66)	8 (16)	9 (18)	0
4	In the last month, how often have you felt that things were going your ways	18 (36)	18 (36)	13 (26)	1 (2)
5	In the last month, how often have you been able to control irritations in your life	29 (58)	17 (34)	4 (8)	0
6	In the last month, how often have you felt that you were one top of things	19 (38)	16 (32)	15 (30)	0
7	In the last month, how often have you been able to control the way you spend your time	23 (46)	18 (36)	7 (14)	2 (4)

From the above table no.3 showing the patient’s responses towards dealing with stress positively, it can be observed that the majority (66%) of the patients never felt confident about their ability to handle personal problems, while (62%) of the patients are not able to cope effectively with important changes. Whereas 58% had not able to control irritations in their life, while 52% of patients are having fears to deal with irritating life hassles successfully.

From the above table no.4 it was seen that the patient’s responses towards dealing with stress was negatively, and it can be observed that the majority (56%) of the patients could not cope with all things that they had to do. While 52% of patients are angered because of things that are outside of their control, 48% are unable to control important things in their life, 32% of patients felt difficulties are piling so high that they could not overcome them.

The above table shows that majority of patients 66% had adopted moderate coping strategies while the remaining 34% were able to cope with their illness at a mild level.

The data in above table shows that 60% of patients undergoing hemodialysis always adopt the religious coping and 48% are engaged in behavioral disengagement, while 46% of patients accepted their illness. It can also be seen that 76% of patients used emotional support as a strategy rarely, while 42% of patients rarely adopted the Active Coping strategy.

The above table shows that a significant relationship (.04level) exists between occupation and Stress and also a significant relationship (.02 levels) between stress and Income. With regard to coping a significant relationship (.000 levels) was found between patients coping and their living arrangements.

**Table 4** Frequency and Percentage Distribution of Patients undergoing maintenance Dialysis with regard to Negative stress

S.No.	Category (Negative Stressors)	Almost Never Frequency (%)	Sometimes Frequency (%)	Fairly often Frequency (%)	Very often Frequency (%)
1.	In the last month how often have you been upset because of something that happened unexpectedly	5 (10)	20 (40)	25 (50)	0
2	In the last month, how often have you felt that you were unable to control the important things in your life	12 (24)	14 (28)	24 (48)	0
3	In the last month, how often have you felt nervous and “stressed	9 (18)	24 (48)	17 (34)	0
4	In the last month, how often have you found that you could not cope with all the things that you had to do	13 (26)	9 (18)	28 (56)	0
5	In the last month, how often have you been angered because of things that happened that were outside of your control	9 (18)	15 (30)	26 (52)	0
6	In the last month, how often have you found yourself thinking about things that you have to accomplish	21 (42)	13 (26)	15 (30)	0
7	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them	16 (32)	17 (34)	16 (32)	1 (2)

**Table 5** Level of Coping in patients undergoing maintenance Dialysis

	Category	Frequency	Percentage
1.	Mild	17	34
2	Moderate	33	66

**Table 6** Frequency and Percentage distribution of Patients undergoing dialysis with regard to coping strategies

S.NO	Items	Never Frequency (%)	Rarely Frequency (%)	Sometimes Frequency (%)	Always Frequency (%)
1	Self-Distractio	8 (16)	9 (18)	16 (32)	17 (34)
2	Active Coping	0	21(42)	13 (26)	16 (32)
3	Denial	6 (12)	11 (22)	20 (40)	13 (26)
4	Substance use	28 (56)	12 (24)	5 (10)	5 (10)
5	Use of emotional support	0	38 (76)	8 (16)	14 (28)
6	Instrumental support	8 (16)	18 (36)	13 (26)	11 (22)
7	Behavioral Disengagement	4 (8)	8 (16)	14 (28)	24 (48)
8	Venting	4 (8)	9 (18)	15 (30)	22 (44)
9	Positive reframing	11 (22)	12 (24)	11 (22)	16 (32)
10	Planning	2 (4)	17 (34)	15 (30)	16 (32)
11	Humor	4 (8)	24 (48)	8 (16)	14 (28)
12	Acceptance	4 (8)	6 (12)	17 (34)	23 (46)
13	Religion	10 (20)	2 (4)	8 (16)	30 (60)
14	Self-Blame	17 (34)	5 (10)	4 (8)	24 (48)

**Table 7** Analysis of relationship between demographic variables and stress & coping strategies adopted by the patients undergoing maintenance Dialysis

Demographic variables	Stress	Coping
Age	.08	.83
Gender	.07	.78
Education	.45	.98
Occupation	.04*	.60
Income	.02*	.41
Living arrangements	.46	.000**

\*correlation is significant at 0.05 level

\*\* correlation is significant at .000 level

**Table 8** Relationship between stressors and coping strategies adopted by the patients undergoing dialysis

N=50	Mean &SD	p-value
Stress	23+3.6	.014*
Coping	28+5.1	

\*correlation is significant at 0.05 level

Pearson Correlation was used to find out the relationship between the coping strategies and stressors of the patients undergoing dialysis, and P value is .001, which is considered as significant. Hence there is a strong relationship between Stress and Coping.

### Implications for Nephrology Social Work

Social work practice in an ESRD settings demands highly developed and sophisticated social work intervention skills. Following are functions expected of Nephrology social workers.

1. They help the clients to utilize their knowledge to assess their level and nature of stress and motivate them to adopt positive coping strategies.

2. They also assist the patients to cultivate interest in applying various coping mechanisms and thus improve their self – care.
3. They help patients to distinguish between normal adjustment reactions and more debilitating and potentially self-destructive emotional reactions.
4. They tailor interventions to suit the individual coping styles of the CKD patients.

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**How to cite this article:**

Sowdamini D et al.2018, Stress And Coping In Patients Undergoing Maintenance Dialysis: Implications For Nephrology Social Work. *Int J Recent Sci Res.* 9(4), pp. 26227-26231. DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0904.2016>

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