

# Coping Strategies and Quality of Life in Patients Receiving Chronic Hemodialysis

## *Kronik Hemodiyaliz Hastalarında Başa Çıkma Stratejileri ve Yaşam Kalitesi*

### ABSTRACT

**OBJECTIVE:** Patients on chronic maintenance hemodialysis (HD) experience several medical and social problems. Studies regarding some of the important psychological variables like life events, coping strategies and quality of life (QOL) in these hemodialysis patients are lacking in India. Our study was designed to compare the severity of life events, coping strategies and QOL in hemodialysis patients versus matched controls.

**MATERIAL and METHODS:** 30 patients with end stage renal disease (ESRD) who were on chronic maintenance hemodialysis were recruited in this 6-month cross-sectional study. Presumptive Stressful Life Events Scale, AECOM Coping Style Scale and WHO QOL-Bref tests were performed to compare these patients with their matched controls.

**RESULTS:** Desirable life events, positive coping and QOL were significantly low in HD patients. Suppression (avoiding the problem or situation), blame and help seeking were significantly more common among ESRD patients. Good social support and desirable life events were found to be protective against poor QOL in these patients.

**CONCLUSION:** The present study concludes that patients who are on chronic maintenance hemodialysis experienced significantly more untoward life events. Preventive strategies against poor QOL in these patients include promotion of good physical and psychological health, augmenting social support and educating them to adapt positive coping habits.

**KEY WORDS:** Coping, Hemodialysis, Life events, Quality of life

### ÖZ

**AMAÇ:** Kronik idame hemodiyalizi (HD) yapılan hastalar çeşitli tıbbi ve sosyal problemler yaşarlar. Bu hemodiyaliz hastalarında yaşam olayları, başa çıkma stratejileri ve yaşam kalitesi gibi bazı önemli psikolojik değişkenler üzerine çalışmaların sayısı Hindistan'da azdır. Çalışmamız, yaşam olaylarının şiddeti, başa çıkma stratejileri ve yaşam kalitesini hemodiyaliz hastalarında eşleştirilmiş kontrollerle karşılaştırmak üzere tasarlanmıştır.

**GEREÇ ve YÖNTEMLER:** Bu 6 aylık çapraz kesitsel çalışmaya son dönem böbrek yetmezliği (SDBY) olan ve kronik idame hemodiyaliz tedavisi alan 30 hasta alınmıştır. Bu hastaları eşleştirilmiş kontrollerle karşılaştırmak üzere Varsayılan Stresli Yaşam Olayları Ölçeği, AECOM Başa Çıkma Tazları Ölçeği ve WHO QOL-Bref testleri yapılmıştır.

**BULGULAR:** İstenen yaşam olayları, pozitif başa çıkma ve yaşam kalitesi HD hastalarında önemli ölçüde düşük bulunmuştur. Baskılama (problem veya durumdan kaçınma), suçlama ve yardım arama SDBY hastalarında önemli ölçüde daha sık olarak saptanmıştır. İyi sosyal destek ve istenen yaşam olaylarının bu hastalarda düşük yaşam kalitesine karşı koruyucu olduğu bulunmuştur.

**SONUÇ:** Mevcut çalışma kronik idame hemodiyalizi alan hastaların önemli ölçüde daha fazla olumsuz yaşam olayı yaşadığını göstermiştir. Bu hastalarda düşük yaşam kalitesine karşı önleyici stratejiler arasında iyi fiziksel ve psikolojik sağlığın desteklenmesi, sosyal desteğin güçlendirilmesi ve kendilerinin pozitif başa çıkma alışkanlıkları kazanmak üzere eğitilmesi vardır.

**ANAHTAR SÖZCÜKLER:** Başa çıkma, Hemodiyaliz, Yaşam olayları, Yaşam kalitesi

### Pavan MALLESHAPPA

Adichunchanagiri Institute of Medical  
Sciences, General Medicine,  
Division of Nephrology,  
Karnataka, India



Received : 03.04.2017

Accepted : 17.06.2017

Correspondence Address:

**Pavan MALLESHAPPA**

Adichunchanagiri Institute of Medical

Sciences, General Medicine,

Division of Nephrology, Karnataka, India

Phone : +91 823 428 74 33

E-mail : dr\_pavanm@yahoo.co.in

**INTRODUCTION**

ESRD is a significant problem in India. The incidence was suggested to be 150 per million population (1). Out of these ESRD patients only less than 10% undergo renal replacement therapy (RRT). Hemodialysis (HD) is the preferred modality of RRT in these patients. ESRD patients suffer several medical complications and poor quality of life (2). ESRD patients have experienced more maladjustment with significant family members. Both physical factors and mental status contribute to stressors among hemodialysis patients (3). Studies on coping strategies and quality of life in patients receiving hemodialysis are scanty in India. Considering the paucity of such studies, we analyze the coping strategies and quality of life of chronic hemodialysis patients.

**MATERIALS and METHODS**

The present study was a cross sectional prospective study done over a period of 6 months. This study enrolled 30 ESRD patients who were receiving hemodialysis on a thrice weekly basis for more than 6 months. 30 matched subjects from the community formed the control group. Patients who were receiving hemodialysis for less than 6 months, who were on irregular hemodialysis, and those with a prior history of renal transplantation are excluded from the study. Patients less than 18 years of age and those with a prior history of mental disorders were also excluded from the study. Cases and controls were matched for age, sex, marital status and co-morbid conditions. Informed consent was obtained from all the participants and was approved by the Human Ethics Committee, and the Helsinki Declaration of 1975 was followed in every step. Socio-demographic variables and illness variables were documented and compared between the two groups.

The WHO (World Health Organization) quality of life assessment instrument (WHOQOL-Bref) was used to assess the quality of life between the two groups (4). WHOQOL-Bref contains 4 domains which includes psychological health and well-being, physical health and well being, the environment and social relations. This scale has good reliability and the validity of this scale has been found to be superior. Life events were assessed using the Presumptive Stressful life events scale which consists of 51 life events (5). We used the AECOM Coping Style Scale, which consists of 95 items, to determine the coping style (6).

Statistical analysis: The Stat View V Statistical System was used for all the analyses and calculations. Continuous variables were presented by mean +/- SD. Categorical variables were assessed by the chi-square test. Comparison between pairs of groups was conducted by the application of Student's *t*-test or Mann-Whitney *U*-test. The Paired Student's *t*-test or Wilcoxon's test was used to analyze the changes within each group. P- values of <0.05 were taken as the cut-off for statistical significance. Risk factors were identified using conditional logistic regression analysis.

**RESULTS**

The average age of ESRD patients versus control was 54.9±13.4 vs. 54.0±10.9. There was a male predominance in the studied subjects with a male to female ratio of 60:40 (Table I). 80% were married subjects in both the groups (Table I).

QOL was significantly lower in ESRD patients. All 4 sections of QOL: psychological health and well-being, physical health and well being, environment and social relations were significantly lower in ESRD patients compared to their matched controls (Table II).

Life events were compared between ESRD patients and their matched controls (Table III). Statistically significant higher life events, and undesirable and personal life events were found among ESRD patients. Family conflict, marital conflict,

**Table I:** Patient characteristics.

	Cases (n=30)	Controls (n=30)
<b>Age, years</b>	54.9+/- 13.4	54.0+/- 10.9
<b>Sex, M/F</b>	18/12	18/12
<b>Co-morbid conditions</b>		
DM	26	25
HTN	15	16
CAD	11	10
PVD	6	6
CVA	4	4
<b>Marital status</b>		
Married	24/30	24/30
<b>Occupation</b>		
Employed	20/30	20/30

**DM:** Diabetes mellitus, **HTN:** Hypertension, **CAD:** Coronary artery disease, **PVD:** Peripheral vascular disease, **CVA:** Cerebro-vascular accident

**Table II:** Comparison of different types of life events.

Variable	Mean SD		P-value
	Cases	Controls	
Total LE score	205.60 145.04	134.40 117.5	<0.05
Desirable LE score	74.62 82.72	79.28 75.80	NS
Undesirable LE score	168.64 124.23	92.40 99.64	<0.001
Personal LE score	108.46 96.26	58.28 75.62	<0.01
Impersonal LE score	94.47 84.64	74.26 71.46	NS

**NS:** Not significant; **LE:** Life events

depression and sleep disturbances were significantly more common among ESRD patients than controls. Different types of coping behaviors were compared between ESRD patients and controls (Table IV). Significantly higher scores were found for suppression (stopping yourself from thinking about the situation), blame and help seeking among ESRD patients and scores for replacement (capacity to get around stress by substituting with a new aim or a new behavior), mapping (capacity to acquire, store and decode information) and minimization (capacity to downplay the significance of an stressful event) were significantly lower in ESRD patients compared to their matched controls.

Risk factors were analyzed using stepwise conditional logistic regression analysis between ESRD patients and controls, which revealed that desirable life events and good social support are the factors which determine good QOL in hemodialysis patients (Table V).

**DISCUSSION**

ESRD patients experience many threats to their QOL. Both physical and mental burden of dialysis as well as numerous morbidities associated with it will affect their QOL. In our study, we analyzed the life events, coping strategies and quality of life of ESRD patients who were on chronic hemodialysis.

QOL is an important variable in assessing the mental and physical health of dialysis patients. All 4 domains of QOL were significantly lower in ESRD patients compared to their matched controls. Our study is consistent with diminished QOL on hemodialysis reported by other groups (7,8). Turkmen et al., in

their study, compared the quality of life between hemodialysis and peritoneal dialysis patients and found that the health related quality of life was significantly high in hemodialysis patients as compared to peritoneal dialysis patients (9). Our study compared QOL between hemodialysis patients and their matched controls and we found that QOL was lower among hemodialysis patients. Undesirable life events and personal life events are more commonly associated with dialysis patients as compared to the general population. In our study, family conflict, marital conflict, depression and sleep disturbances were significantly more among hemodialysis patients than controls. Our findings are similar to the study by Turkmen et al., who concluded that sleep disturbance is very common in elderly hemodialysis patients and is associated with both depression and lower QOL (10).

Coping strategies are the important protective factors in hemodialysis patients. Healthy coping behaviors like minimization, replacement and mapping were lacking in hemodialysis patients compared to their controls whereas unhealthy coping habits like suppression, blame and help seeking were more common among hemodialysis patients.

Desirable life events and social support determined good QOL in hemodialysis patients in our study. Desirable life events, because of their positive nature, help these patients in maintaining a good QOL. Good social support also acts as an important factor to maintain a good QOL in these patients.

Our study has certain limitations. First, the number of subjects involved in the study was small. Second, in order to reduce the confounding variables with the study group, a control

**Table III:** Comparison of coping pattern between cases and controls.

Coping strategies	Mean SD		P-value
	Cases	Controls	
Minimization	28.32 6.08	32.14 3.09	P<0.01
Suppression	33.86 4.26	30.20 7.24	P<0.05
Help Seeking	34.86 5.42	30.90 7.45	P<0.01
Replacement	28.54 7.42	32.80 5.62	P<0.01
Blame	26.68 4.04	22.24 5.26	P<0.01
Substitution	27.42 4.28	26.64 4.40	NS
Mapping	24.24 5.30	26.86 4.22	P<0.05
Reversal	30.08 4.46	30.62 4.62	NS

NS: Not significant.

**Table IV:** Comparison of QOL between cases and controls.

QOL	Mean SD		P-value
	Cases	Controls	
Physical health and well-being	22.24 6.60	26.46 4.22	P<0.01
Psychological health and well-being	16.48 4.62	20.66 2.28	P<0.01
Social relations	10.34 3.62	13.82 2.06	P<0.01
Environment	26.72 6.62	30.02 4.36	P<0.01

**Table V:** Stepwise conditional logistic regression analysis of risk factors between cases and controls.

Significant factors	Odds ratio	Z-value	P-value
Desirable LE	0.54	-2.884	<0.01
Total social support score	0.98	-2.324	<0.01

LE: Life events

group was selected intentionally to match the psychological, social and demographic characteristics. Third, the number and the type of life events between the two groups were unique.

### CONCLUSIONS

The present study concludes that patients who are on chronic maintenance hemodialysis experienced significantly more untoward life events. QOL, positive coping habits and social support were significantly lower in these patients. The present findings also suggest that augmenting the social support; educating individuals to adapt positive coping skills and encouraging good physical and psychological health are the most effective preventive strategies against low QOL in these patients.

### REFERENCES

1. Modi GK, Jha V: The incidence of end-stage renal disease in India: A population-based study. *Kidney Int* 2006;70:2131-2133
2. Dehkordi LM, Shahgholian N: An investigation of coping styles of hemodialysis patients. *Iran J Nurs Midwifery Res* 2013;18:42-46
3. Ayoub AM, Hijjazi KH: Quality of life in dialysis patients from the United Arab Emirates. *J Family Community Med* 2013;20:106-112
4. Saxena S, Carlson D, Brillington R, Orley J: The WHO quality of life assessment instrument (WHOQOL-Bref): The importance of its items for cross-cultural research. *Quality of Life Research*. Vol. 10. Dordrecht: Kluwer Academic Publishers, 2001; 711-721
5. Singh G, Kaur D, Kaur H: Presumptive stressful life event scale (PSLES)- a new stressful life event scale for use in India. *Indian J Psychiatry* 1984;26:107-114
6. Plutchik R, Conte HR: Measuring emotions and their derivatives: Personality traits, ego defences, and coping styles. In: Wetzler S, Katz M (eds), *Contemporary Approaches to Psychological Assessment*. New York: Brunner Mazel, 1989
7. Kimmel PL, Emont SL, Newmann JM, Danko H, Moss AH: ESRD patient quality of life: Symptoms, spiritual beliefs, psychosocial factors, and ethnicity. *Am J Kidney Dis* 2003;42:713-721
8. Valderrábano F, Jofre R, López-Gómez JM: Quality of life in end-stage renal disease patients. *Am J Kidney Dis* 2001;38:443-464
9. Turkmen K, Yazici R, Solak Y, Guney I, Altintepe L, Yeksan M, Tonbul HZ: Health-related quality of life, sleep quality, and depression in peritoneal dialysis and hemodialysis patients. *Hemodial Int* 2012;16:198-206
10. Turkmen K, Erdur FM, Guney I, Gaipov A, Turgut F, Altintepe L, Saglam M, Tonbul HZ, Abdel-Rahman EM: Sleep quality, depression, and quality of life in elderly hemodialysis patients. *Int J Nephrol Renovasc Dis* 2012;5:135-142