

HEALTH RELATED QUALITY OF LIFE AMONG PREDIALYSIS CHRONIC KIDNEY DISEASE PATIENTS

Samar Abd ElHafeez¹, Zahira Gad¹, Sunny Sallam¹, Giovanni Tripepi², Carmine Zoccali², Hala ElWakil³, and Noha Awad¹

¹ Epidemiology Department, High Institute of Public Health, Alexandria, Egypt, ² Epidemiology and Pathophysiology of Renal Diseases and Hypertension, CNR-IBM, Reggio Calabria, Italy, and ³ Internal Medicine, Faculty of Medicine, Alexandria, Egypt.

INTRODUCTION AND OBJECTIVES

Evaluating health related quality of life (HRQOL) among chronic kidney disease (CKD) patients is important for assessment of their care. It offers unique information for comparing different treatment modalities. The pattern of HRQOL among predialysis patients has received little attention. We aimed to assess HRQOL among predialysis patients using KDQOL-SF™1.3 questionnaire after Arabic translation, cultural adaptation, and validation.

METHODS

The study included 600 predialysis patients (100 shared in the questionnaire validation) referred to the Main Alexandria University Hospital (serves four Egyptian Governorates). Those with end stage renal disease, history of blood loss or transfusion were excluded. Clinical and laboratory data were collected. KDQOL-SF™1.3 was administered by interviewing eligible patients. Test re-test reliability and internal consistency were estimated. Discriminant, concept, and construct validity were assessed. HRQOL data was summarized into physical, mental, and kidney disease composite summaries (PCS, MCS, and KDCS, respectively). The influence of the demographic and clinical variables on HRQOL was explored by univariate and multivariate analyses.

RESULTS

Reliability of the study Arabic version of the KDQOL-SF™ version 1.3 questionnaire

Scales	ICC (n=50)	Cronbach's α (n=100)
Kidney disease targeted scale		
• Symptoms/ problems	0.93	0.81
• Effects of kidney disease	0.88	0.73
• Burden of kidney disease	0.85	0.88
• Work status	0.93	0.28
• Cognitive function	0.93	0.60
• Quality of social interaction	0.92	0.23
• Sexual function	0.95	0.90
• Sleep	0.93	0.90
• Social support	0.79	0.88
• Patient satisfaction	0.94	-
SF-36		
• Physical function	0.93	0.95
• Role physical	0.88	0.76
• Pain	0.94	0.87
• General health	0.92	0.83
• Emotional well being	0.89	0.70
• Role emotional	0.86	0.83
• Social function	0.79	0.88
• Energy/ Fatigue	0.94	0.81

Discriminant validity: the study questionnaire could significantly discriminate between patients' subgroups. Females, those with history of hypertension, and CKD stage 4 patients had significantly ($p < 0.05$) lower PCS, MCS, and KDCS scores. Patients aged 50 years or more and non working patients scored significantly lower PCS and KDCS scores. Diabetic patients had significant lower KDCS.

Concept validity

Correlation between the kidney disease targeted scale and the overall health rate

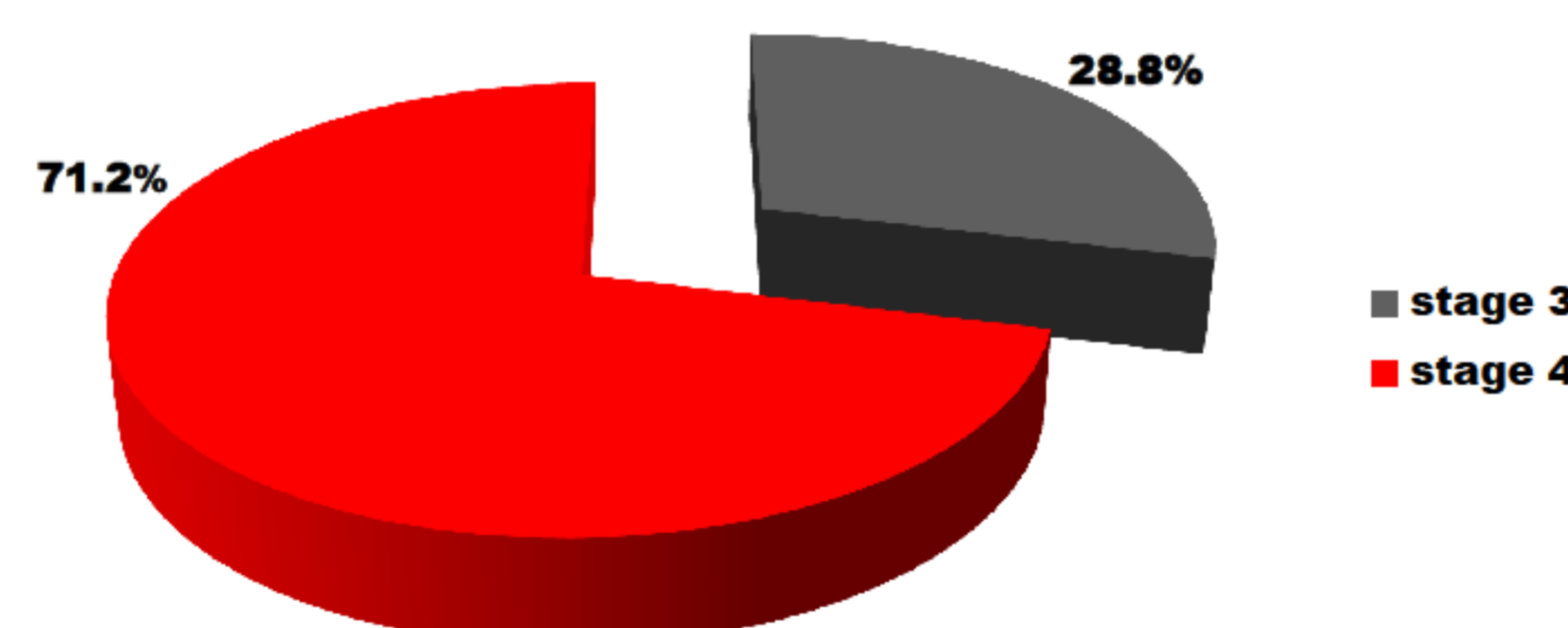
Scales	Overall health rate r (p)
Kidney disease targeted scale	
• Symptoms/ problems	0.28 (0.005*)
• Effects of kidney disease	0.34 (<0.001*)
• Burden of kidney disease	0.31 (0.003*)
• Work status	0.08 (0.44)
• Cognitive function	0.21 (0.04*)
• Quality of social interaction	0.29 (0.003*)
• Sexual function	0.19 (0.37)
• Sleep	0.3 (0.002*)
• Social support	0.23 (0.02*)
• Satisfaction	0.16 (0.12)
SF-36	
• Physical functioning	0.29 (0.004*)
• Role physical	0.30 (0.002*)
• Pain	0.26 (0.009*)
• General health	0.32 (0.001*)
• Emotional well being	-0.017 (0.87)
• Role emotional	0.14 (0.17)
• Social function	0.27 (0.008*)
• Energy/ Fatigue	0.18 (0.07)

Correlation between the kidney disease targeted scale and SF-36 main composite summaries

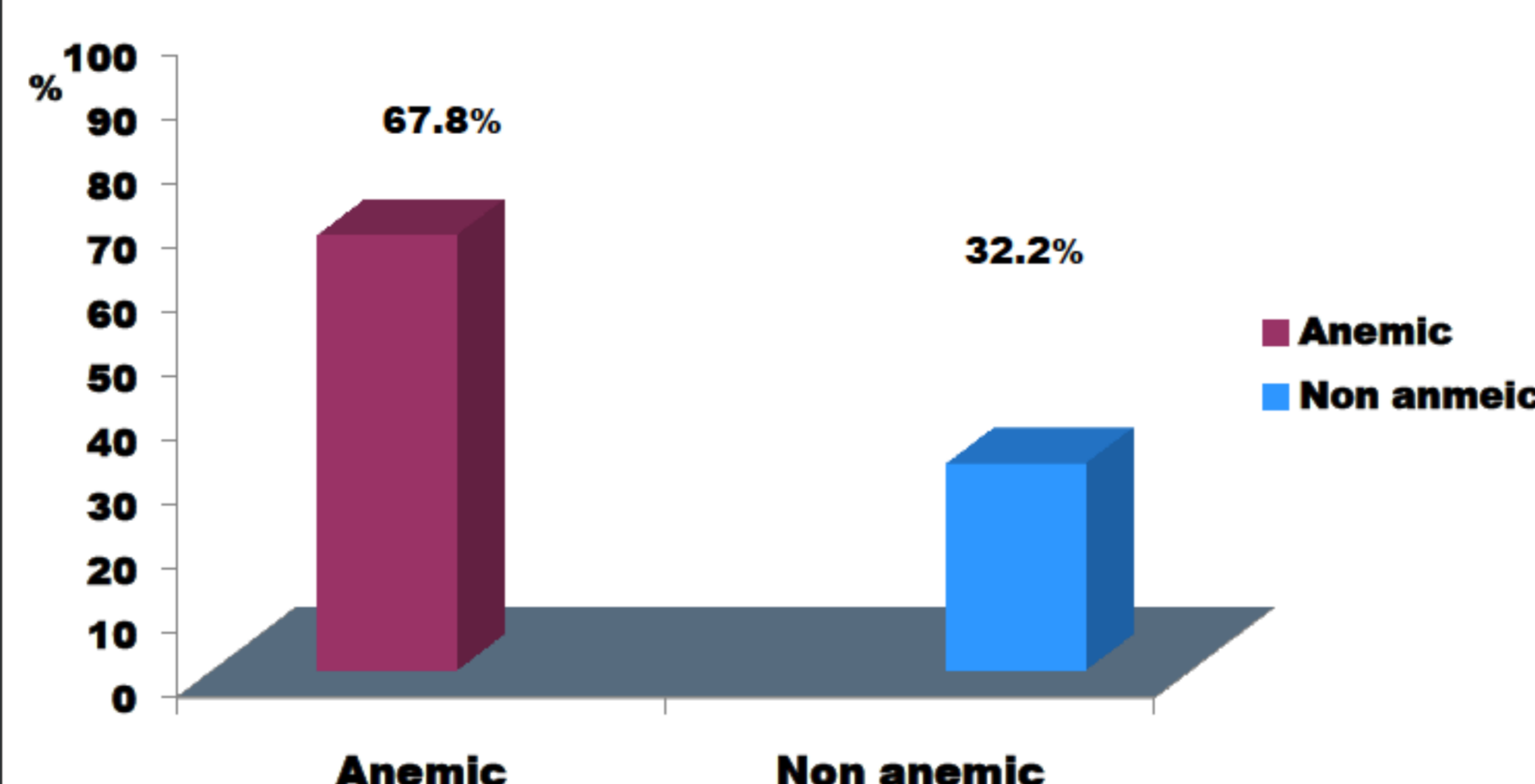
Kidney disease targeted scale	PCS, r(p)	MCS, r(p)
Symptoms/ problems	0.61 (<0.001*)	0.40 (<0.001*)
Effects of kidney disease	0.45 (<0.001*)	0.24 (0.02*)
Burden of kidney disease	0.68 (<0.001*)	0.63 (<0.001*)
Work status	0.68 (<0.001*)	0.37 (<0.001*)
Cognitive functions	0.67 (<0.001*)	0.40 (<0.001*)
Quality of social interaction	0.38 (<0.001*)	0.55 (<0.001*)
Sexual function	0.45 (<0.001*)	0.10 (0.35)
Sleep	0.61 (<0.001*)	0.28 (0.006*)
Social support	0.24 (0.02*)	0.24 (0.02*)
Patient satisfaction	0.41 (<0.001*)	0.32 (0.001*)

Construct validity: the majority of the kidney disease targeted items were significantly inter-correlated. Principal component analysis of the disease targeted scale indicated that this part of the questionnaire could be summarized into 10 factors that together explained 70.9% of the variance

Characteristics of the study patients enrolled for HRQOL assessment

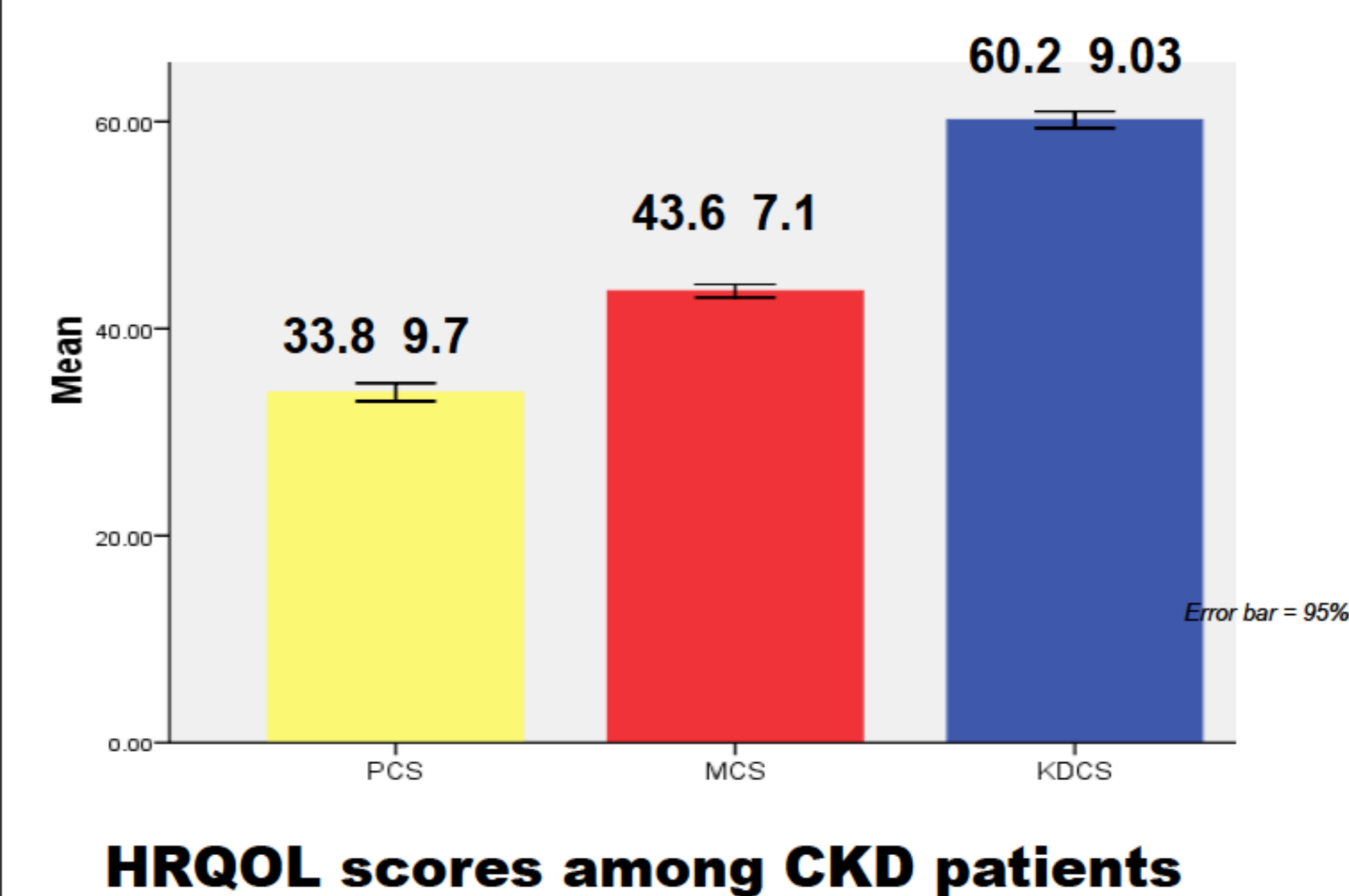


Stages of CKD among the study patients



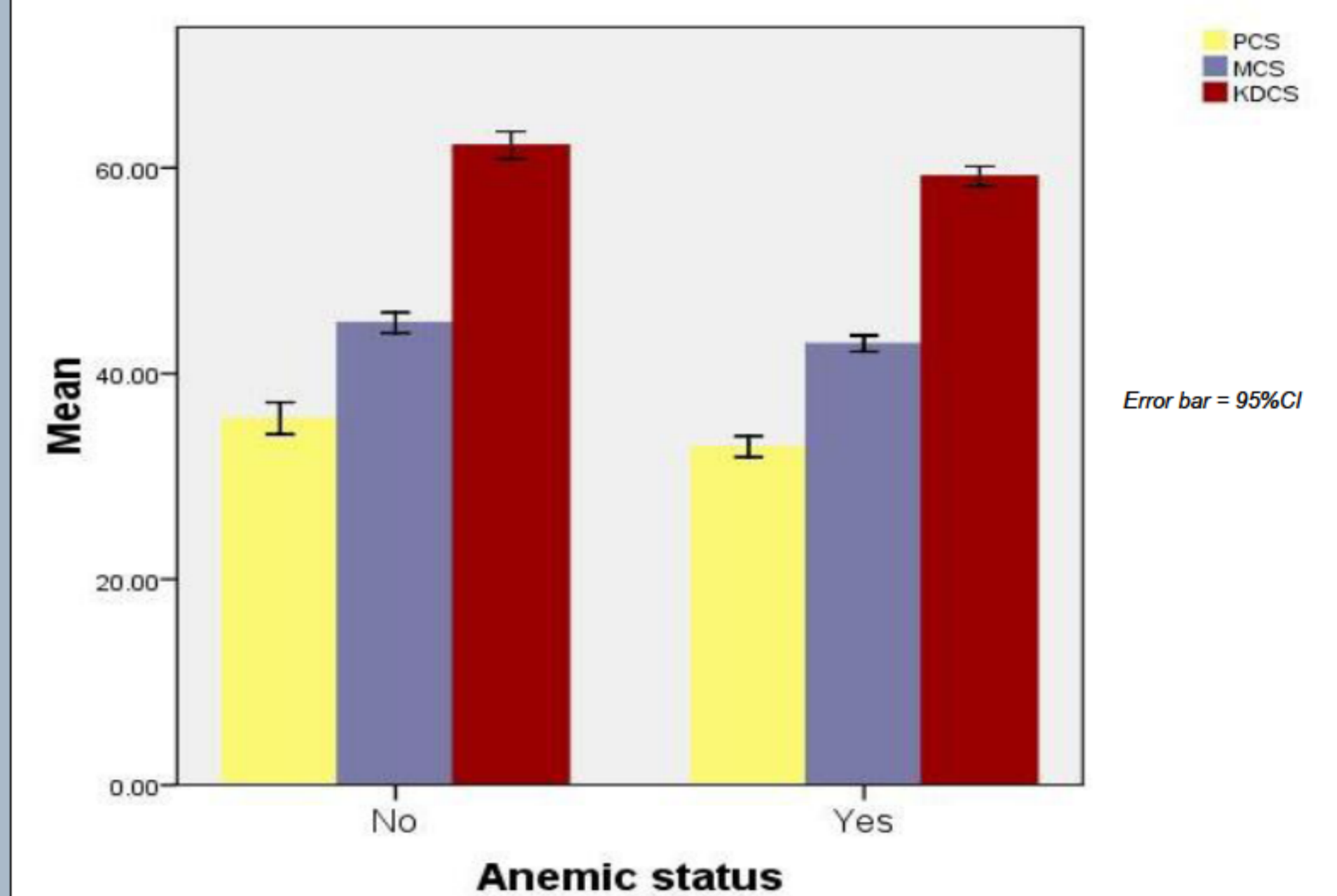
Anemia among CKD patients

Assessment of HRQOL



Relationship between the epidemiological characteristics and HRQOL

Females, below high school education patients, hypertensive, and those with history of CVD scored significantly lower for PCS and KDCS. Patients aged ≥ 50 years, non working, and diabetics scored significantly lower for both PCS and KDCS and significantly higher for MCS. Anemic patients had significantly lower PCS, MCS, and KDCS scores.



Relationship between anemia and HRQOL

Multiple linear regression analysis of PCS, MCS, and KDCS

Variable (units of measure)	PCS [b (p)]	MCS [b (p)]	KDCS [b (p)]
Age (1 year)	-0.74 (0.46)	2.4 (0.002)	-1.3 (0.17)
Gender (1= male, 0=female)	0.20 (0.88)	0.57 (0.57)	0.12 (0.92)
Marital status			
Single (1=single, 0=others)	8.2 (<0.001)	-5.07 (0.002)	1.06 (0.59)
Married (1=married, 0=others)	5.17 (<0.001)	-5.12 (<0.001)	0.09 (0.94)
Education			
(1= \geq high school, 0= others)	2.04 (0.02)	1.2 (0.08)	1.39 (0.12)
Working status			
(1=working, 0= non working)	2.9 (0.005)	-0.36 (0.65)	5.29 (<0.001)
Smoking status			
(1=smokers, 0= non-smokers)	0.41 (0.75)	-0.77 (0.43)	-0.12 (0.92)
Type of care			
(1= private, 0=others)	2.9 (0.001)	-0.28 (0.69)	0.91 (2.41)
CVD history (1=yes, 0=no)	-0.23 (0.79)	-0.99 (0.14)	-1.06 (0.19)
BMI (1kg/m ²)	0.34 (0.001)	0.11 (0.17)	0.34 (<0.001)
Hypertension (1=yes, 0= no)	-1.68 (0.04)	0.25 (0.69)	-1.06 (0.17)
Diabetes mellitus			
(1= yes, 0= no)	-1.49 (0.07)	0.40 (0.53)	-1.34 (0.08)
eGFR (1ml/ min/ 1.73 m ²)	0.05 (0.39)	0.07 (0.13)	0.04 (0.54)
Anemia			
(1= anemic, 0= non-anemic)	-2.62 (0.003)	-1.60 (0.02)	-2.71 (0.002)

CONCLUSION

The Arabic KDQOL-SF™ 1.3 questionnaire was a reliable and valid tool for assessment of HRQOL. Predialysis patients reported reduced HRQOL specially those with anemia

REFERENCES

- Mucsi I. Health-related quality of life in chronic kidney disease patients. Primary Psychiatry. 2008; 15(1): 46-51.
- Mujais SK, Story K, Brouillette J, Takano T, Soroka S, Franek C, et al. Health-related quality of life in CKD patients: correlates and evolution over time. Clin J Am Soc Nephrol. 2009; 4 (8): 1293-301.
- Fructuoso M, Castro R, Oliveira L, Prata C, Morgado T. Quality of life in chronic kidney disease. Nefrologia. 2011; 31(1):91-6.

