

Quality of life and disease burden in diabetic patients with end stage kidney disease on haemodialysis compared to diabetic patients with chronic kidney disease

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BACKGROUND

Many studies have shown that patients with reduced kidney function require greater surveillance and more psychiatric intervention for depression due to poor quality of life (Palmer et al., 2013). This is especially for patients with diabetes mellitus (Yu et al., 2014). However, the differences in quality of life (QoL) and disease burden in diabetic patients with end stage kidney disease (ESKD) on haemodialysis and diabetic patients with chronic kidney disease (CKD) remains elusive.

AIM

The aim of this study is to examine and compare the quality of life and symptoms of anxiety and depression in diabetic patients requiring haemodialysis and diabetic patients with CKD that were not on dialysis.

METHOD

A convenience sample of diabetic patients with kidney disease was recruited in Cork University Hospital Haemodialysis Centre and Diabetes Outpatient Department in 2015. The inclusion criteria were patients with Type 2 Diabetes Mellitus, age > 50 years old and with renal impairment. The exclusion criteria were patients with Type 1 Diabetes Mellitus or age < 50 years old. The following data were collected: demographics, staging of CKD and previous history of depression.

Health-related quality of life (HRQOL) was measured using the 36-Item Short Form Health Survey (SF-36). The physical component summary (PCS) and the mental component summary (MCS) were the outcome variables.

Anxiety and depressive symptoms were measured using the Hospital Anxiety and Depression Scale (HADS).

Medical co-morbidities were measured using the Charlson Co-morbidity Index (CCI).

Data were analysed using Mann-Whitney U test to compare means. Analysis was performed using SPSS Statistics version 21.0.

RESULTS

The total number of patients recruited was 82. The mean age was 69.32 years ($SD=9.23$). 65.8% ($n=54$) were male. 48.7% ($n=40$) were on dialysis and the median length on dialysis was 2.5 years (range 1-13 years). The median HADS score was 7.0. The mean score of SF-36 PCS was 32 and MCS was 57.

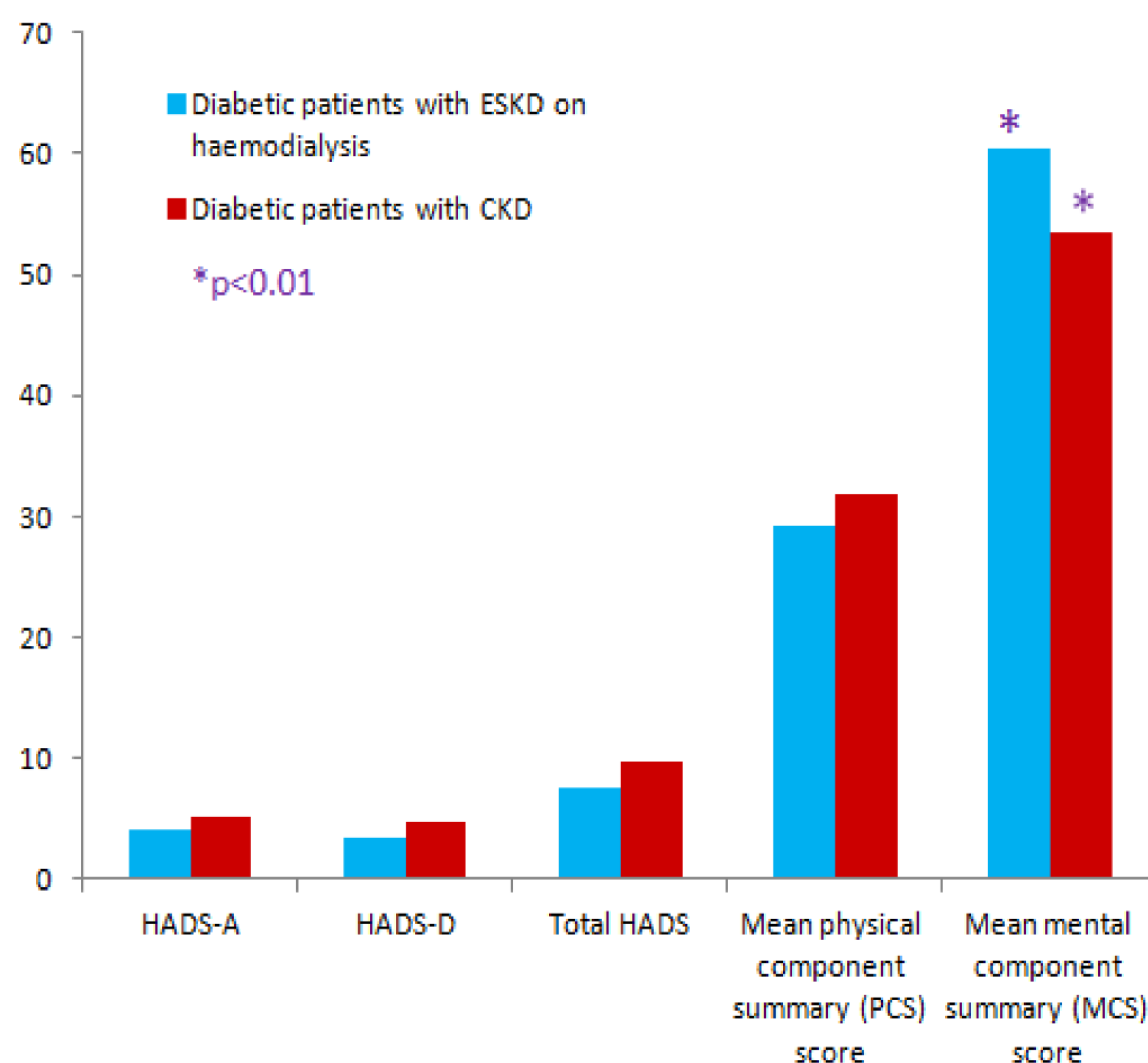
There was no significant difference in HADS score and SF-36 PCS score between the dialysis and non-dialysis group.

The dialysis group had significantly higher SF-36 MCS score ($p<0.01$), mental health sub-scale ($p<0.05$) and emotional role subscale ($p<0.01$). The dialysis group also had significantly higher SF-36 bodily pains sub-scale ($p<0.01$).

Table 1: Descriptive and results

	Diabetic patients with ESKD on haemodialysis	Diabetic patients with CKD	p-value
Baseline Characteristics			
Sample numbers	40	42	-
Mean age (S.D)	69.43 (± 7.86)	69.21 (± 9.23)	0.912
Male	70% ($n=28$)	62% ($n=26$)	0.440
Mean duration of diabetes in years (S.D)	16.61 (± 10.12)	14.54 (± 8.18)	0.311
Mean Charlson Comorbidity Index (CCI) Score	5.60 (± 1.30)	5.76 (± 1.20)	0.389
HRQOL: SF-36 score			
Mean physical component summary (PCS) score	29.15 (± 7.81)	31.88 (± 11.71)	0.550
Mean mental component summary (PCS) score	60.33 (± 8.60)	53.40 (± 11.79)	0.008
HADS score			
Mean anxiety score	4.05 (± 2.86)	5.14 (± 3.38)	0.152
Mean depression score	3.40 (± 3.38)	4.67 (± 4.05)	0.147
Mean total score	7.48 (± 5.57)	9.81 (± 6.82)	0.148

Figure 1: HADS scores and SF-36 scores analysis



CONCLUSION

There was no significant difference in anxiety and depressive symptoms between diabetic patients with ESKD on haemodialysis and diabetic patients with CKD.

Dialysis group has better mental health QoL compared to non-dialysis group. More studies are needed to explore the factors influencing QoL in diabetic patients with CKD.

