Haemodialysis Patients Experience Higher Levels of Psychosocial Distress than Equivalent CKD Patients

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Background: Patients with advanced chronic kidney disease (CKD) and multiple co-morbidities have high symptom and depression scores in cross-sectional studies. However, few direct comparison studies between CKD patients and haemodialysis (HD) patients have been carried out. The Distress Thermometer (fig 1) is a validated ultra-short screening tool which we already use routinely to screen for psychosocial distress in our nephrology outpatient clinics. We compared Distress Thermometer scores in 132 CKD patients and 137 HD patients.

Aim: To compare the Distress Thermometer (DT) scores in CKD and HD patients

Hypothesis: Psychosocial distress is higher in HD patients than in CKD patients, even after adjusting for age and comorbidity.

Outcome of interest: Distress Thermometer scores

Methods

The Distress Thermometer was administered in the outpatient department prior to routine clinic appointments (CKD patients) or during dialysis (HD patients). The SF-36 questionnaire, Memorial Symptom Assessment Scale (MSAS-SF Renal), Beck Depression Inventory (BDI-II) and Hospital Anxiety and Depression Scale (HADS) were also administered at the same time.

We recorded age, gender, haemoglobin, albumin, presence of comorbidities (depression, diabetes, peripheral vascular disease, ischaemic heart disease), and calculated both Charlson and Davies comorbidity scores. We also recorded estimated glomerular filtration rate (eGFR, calculated using CKD-Epi formula) for CKD patients, and time on dialysis in months for HD patients.

Results

The CKD and haemodialysis groups were well matched (table 1)

	Clinic (Median, IQR)	RRT (Median, IQR)
Age	67.2 (49.8-77.3)	67.9 (28.7-77.3)
Gender	64% male	72% male
Davies score	1 (0-3)	1 (1-3)
Charlson comorbidity index	6 (4-8)	6 (5-8)
Hb	11.4 (10.6-12.5)	11.1 (10.3-11.8)
Albumin	42 (40-44)	40 (37-41)
eGFR	18mls/min (12-24.5)	n/a
Months on HD	n/a	27 (12-67)
Depression	14.4%	14.6%
PVD	14.4%	24.1%
IHD	34.8%	40.9%
Diabetes	37.9%	46.0%

Discussion

We found a significant difference in Distress Thermometer scores in patients on dialysis compared with similar CKD patients (p<0.001 using Mann-Whitney U test). We also found significant differences in HADS, BDI-II, and the physical functioning, energy and emotional wellbeing subscales of the SF-36 (p<0.001, data not shown). There was no significant difference in reported symptoms, or in the SF-36 pain subscale.

In contrast to previous studies, our two populations were generally well matched in terms of age and overall comorbidity using both the Charlson and Davies comorbidity scores. Although the dialysis patients were somewhat more likely to be male and to have peripheral vascular disease, ischaemic heart disease and diabetes we did not find an association between DT scores and presence of any of these conditions.

Despite the higher DT, HADS and BDI scores for HD patients, there was no difference in diagnosed depression or in anti-depressant prescription between the two groups (p=0.5878), suggesting that depression is under-recognised in the HD patients. We recommend routine screening for depression in HD patients – the Distress Thermometer is quick and easy-to-use for this purpose.

The Distress Thermometer

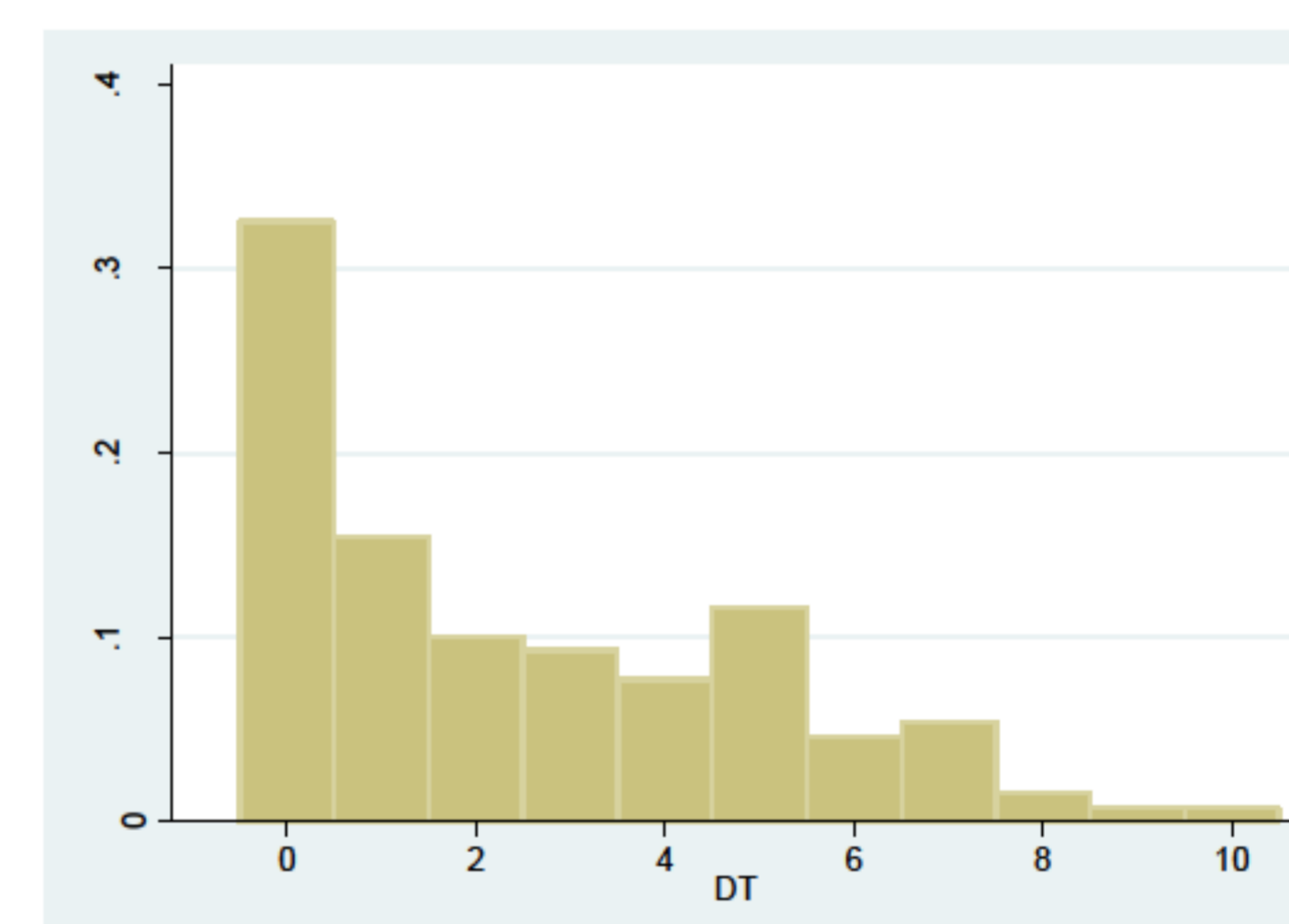

Fig 1: The Distress Thermometer

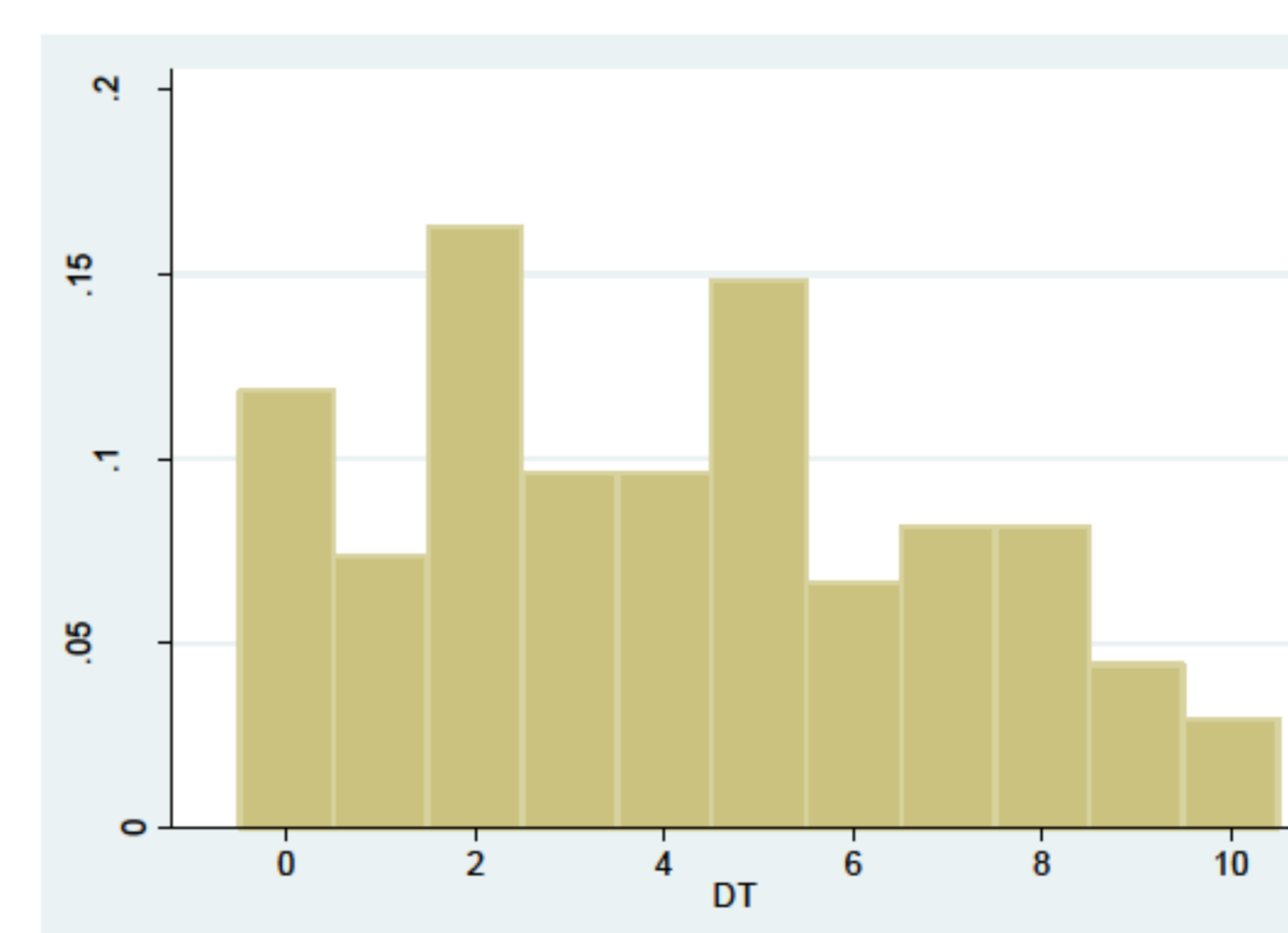Fig 2: CKD patient Distress Thermometer Scores

Median DT score 2, IQR 0-4

Fig 3: HD patient Distress Thermometer Scores

Median DT score 4, IQR 2-6

Distress Thermometer scores did not follow a normal distribution, so the Mann Whitney U test was calculated to compare median DT scores between the two groups, as well as to compare the other scores.

Two-sample Mann-Whitney U test: comparing DT scores between clinic and HD patients.

$$z = -4.934$$

$$Prob > |z| = 0.0000$$

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L7) Dialysis. Epidemiology, outcome research, health services research.

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