

Better health-related quality of life in kidney transplant patients compared to chronic kidney disease patients with similar renal function

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Supplementary Table S1. Clinical characteristics of the enrolled and the excluded CKD patients^a

Variables	Enrolled (N = 1355)	Excluded (N=215)	P
Age (years, mean ± SD)	52.5 ± 12.5	56.7 ± 12.5	0.001 [#]
Male gender (%)	829 (61.2%)	128 (59.5%)	0.692
Marriage (%)	1106 (81.6%)	163 (79.1%)	0.601
Education (%)			
College or post-graduate	638 (47.1%)	95 (44.2%)	0.427
Economy (%)			
High (> \$ 4,500/ month)	333 (24.6%)	50 (23.3%)	0.689
Current employment (%)	826 (61.6%)	131 (60.9%)	0.527
Health insurance (%)	1238 (91.4%)	194 (90.2%)	0.495
BMI (kg/m ² , mean ± SD)	24.6 ± 3.4	25.1 ± 3.7	0.325
Cause of ESRD (%)			0.086
DM	218 (16.1%)	51 (23.7%)	
HTN	223 (16.5%)	48 (22.3%)	
GN	545 (40.2%)	85 (39.5%)	
ADPKD	290 (21.4%)	22 (10.2%)	
Others	79 (5.8%)	9 (4.1%)	
DM	334 (24.6%)	96 (44.7%)	0.021 [#]
Hypertension	999 (73.7)	183 (85.1%)	0.032 [#]
Cardiovascular disease	85 (6.3%)	30 (14.0%)	0.089
Cerebrovascular disease	69 (5.1%)	20 (9.3%)	0.235
eGFR (mL/min/1.73 m ² , mean ± SD)			
Baseline	64.3 ± 26.6	61.1 ± 28.1	0.112
5-year follow-up	57.3 ± 28.4*	53.1 ± 26.1	0.423
Hemoglobin (g/dL, mean ± SD)			
Baseline	13.5 ± 1.9	13.3 ± 2.1	0.228
5-year follow-up	13.2 ± 1.9	13.0 ± 2.3	0.231
Albumin (g/dL, mean ± SD)			
Baseline	4.2 ± 0.4	4.2 ± 0.4	0.718
5-year follow-up	4.2 ± 0.4	4.1 ± 0.4	0.108

ADPKD, autosomal dominant polycystic kidney disease; BMI, body mass index; eGFR, estimated glomerular filtration rate by MDRD equation; DM, diabetes mellitus; GN, glomerulonephritis; HTN, hypertension; SD, standard deviation. **P* < 0.05 compared to baseline. [#]*P* < 0.05 at comparison between the enrolled and the excluded groups. ^aCKD Patients with CKD stage 1–3 at baseline.

Supplementary Table S2. Prognostic factors associated with HRQOL in the total population including both KT and CKD patients at CKD stage 1–2 ^a

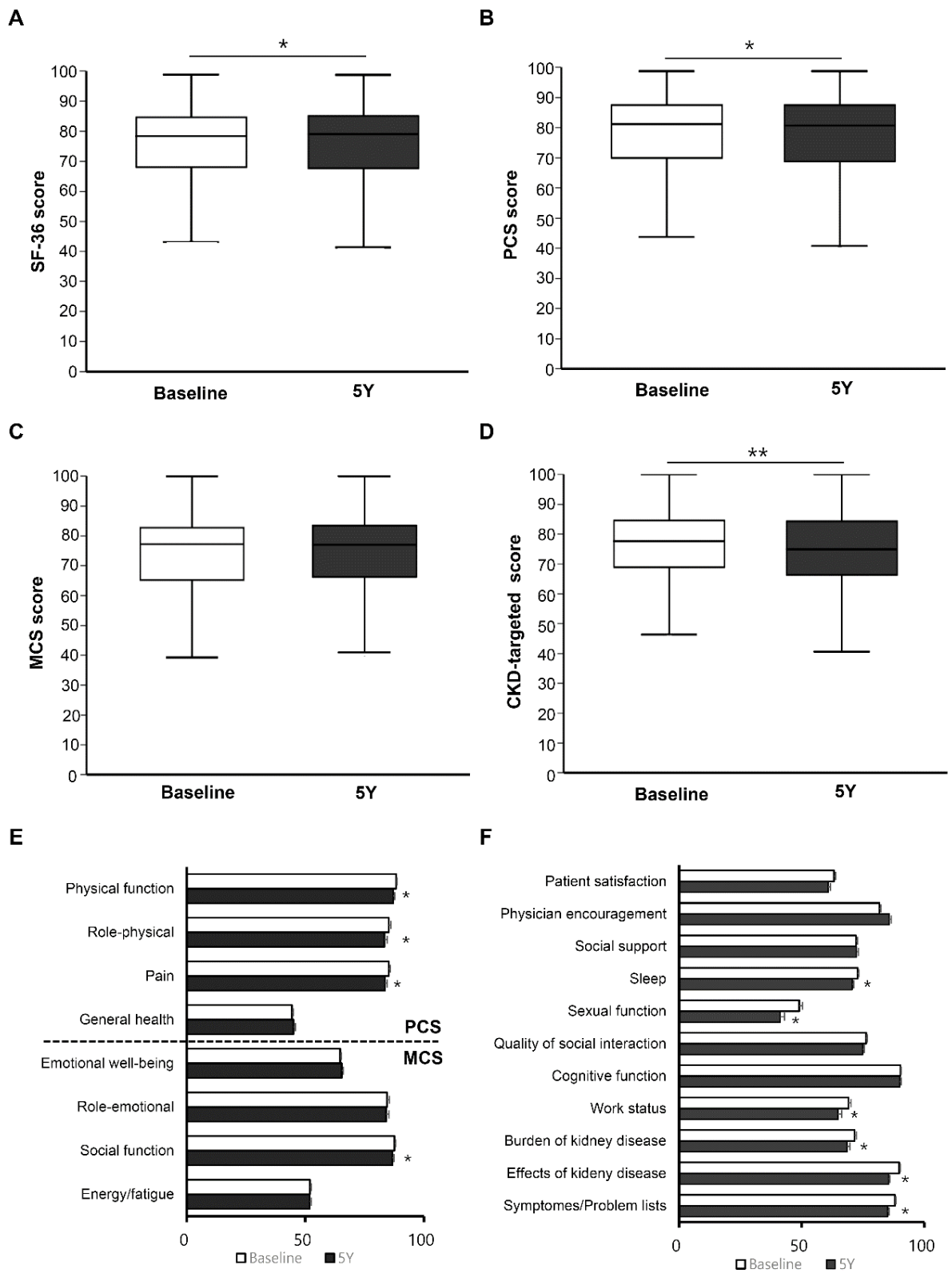
Parameter	Higher SF-36 score			Higher CKD-targeted score		
	Estimate (95% C.I.)	SE	<i>P</i>	Estimate (95% C.I.)	SE	<i>P</i>
KT (vs. CKD)	5.032 (2.354, 6.720)	0.999	<.0001	0.043 (-1.619, 1.705)	0.848	0.959
Time	-0.457 (-4.012, 1.418)	1.450	0.315	-0.480 (-3.054, 2.093)	1.313	0.714
eGFR	0.015 (-0.151, 0.055)	0.025	0.903	0.042 (0.008, 0.076)	0.017	0.015
Age	-0.038 (-0.115, 0.040)	0.042	0.341	-0.018 (-0.077, 0.041)	0.030	0.546
Gender (Male)	1.460 (-0.165, 3.575)	0.658	0.120	1.387 (-0.090, 2.864)	0.754	0.066
Hypertension	-1.539 (-3.618, 0.673)	0.894	0.174	0.661 (-1.022, 2.344)	0.859	0.442
Diabetes mellitus	-3.525 (-5.518, -0.802)	0.763	0.009	-1.044 (-2.871, 0.783)	0.932	0.263
Cardiovascular Ds	-4.771 (-9.751, 0.944)	2.728	0.107	-2.999 (-6.645, 0.648)	0.932	0.107
Cerebrovascular Ds	-1.611 (-7.013, 3.883)	2.779	0.557	-3.617 (-7.676, 0.442)	2.072	0.081
BMI	-0.045 (-0.297, 0.208)	0.111	0.487	-0.060 (-0.283, 0.163)	0.114	0.599
Albumin	2.255 (-0.843, 5.363)	0.944	0.147	1.630 (-0.514, 3.775)	1.094	0.136
Hemoglobin	0.705 (0.251, 1.390)	0.187	0.015	0.679 (0.242, 1.116)	0.223	0.002
Marriage	4.197 (1.779, 6.501)	1.187	0.001	5.245 (3.394, 7.097)	0.945	<.0001
Higher education ^b	0.457 (-1.594, 2.146)	0.948	0.631	0.810 (-0.621, 2.325)	0.750	0.280
Higher income ^c	4.629 (2.515, 6.221)	0.929	<.0001	3.061 (1.459, 4.662)	0.815	0.001
Employment	1.499 (-0.890, 2.945)	0.978	0.294	5.621 (4.071, 7.171)	0.788	<.0001
Health insurance (vs. Health care)	5.874 (-0.661, 10.928)	2.892	0.083	3.525 (-0.467, 7.684)	2.085	0.091

BMI, body mass index; C.I., confidence interval; CKD, chronic kidney disease; Ds, Disease; eGFR, estimated glomerular filtration rate by MDRD equation; KT, kidney transplantation; SE, standard error. ^a Generalized estimated equation analysis was performed. ^b Higher education was defined as receiving a diploma from college or higher. ^c Higher income was defined as monthly income above \$ 4,500. *P* value by generalized estimated equation analysis.

Supplementary Table S3. Prognostic factors associated with HRQOL in the total population including both KT and CKD patients at CKD stage 3^a

Parameter	Higher SF-36 score			Higher CKD-targeted score		
	Estimate (95% C.I.)	SE	<i>P</i>	Estimate (95% C.I.)	SE	<i>P</i>
KT (vs. CKD)	5.032 (2.935, 7.128)	1.067	<.0001	0.412 (-1.490, 2.315)	0.971	0.808
Time	-0.579 (-2.201, 1.043)	0.827	0.570	-1.525 (-5.112, 2.062)	1.081	0.406
eGFR	-0.028 (-0.137, 0.081)	0.247	0.612	0.016 (-0.066, 0.099)	0.042	0.690
Age	0.025 (-0.062, 0.112)	0.042	0.569	-0.026 (-0.092, 0.041)	0.034	0.451
Gender (Male)	-1.376 (-3.79, 0.661)	1.039	0.186	0.708 (-0.922, 2.338)	0.832	0.395
Hypertension	-0.336 (-3.464, 2.793)	1.596	0.883	0.191 (-2.141, 2.522)	0.191	0.873
Diabetes mellitus	-4.609 (-6.938, -2.280)	1.188	<.0001	-4.080 (-5.801, -2.360)	0.878	<.0001
Cardiovascular Ds	-2.852 (-6.488, 0.783)	1.855	0.124	-2.079 (-4.699, 0.541)	1.337	0.120
Cerebrovascular Ds	-5.555 (-10.798, -0.312)	2.675	0.038	-3.934 (-7.922, 0.054)	2.035	0.053
BMI	-0.265 (-0.598, 0.068)	0.170	0.119	-0.036 (-0.303, 0.230)	0.136	0.789
Albumin	0.842 (-1.997, 3.682)	1.449	0.561	1.605 (-0.346, 1.231)	1.605	0.107
Hemoglobin	1.128 (0.564, 1.692)	0.288	<.0001	0.788 (0.346, 1.231)	0.226	<.0001
Marriage	2.809 (0.006, 5.612)	1.430	0.05	4.219 (2.069, 6.368)	1.097	<.0001
Higher education ^b	4.445 (2.477, 6.412)	1.004	<.0001	1.127 (-0.427, 2.680)	0.793	0.155
Higher income ^c	1.862 (-0.157, 3.880)	1.029	0.071	1.930 (0.220, 3.640)	0.815	0.027
Employment	5.844 (3.803, 7.884)	0.665	<.0001	7.491 (5.913, 9.069)	0.805	<.0001
Health insurance (vs. Health care)	4.399 (-0.924, 9.723)	2.716	0.150	2.969 (-0.638, 6.374)	1.789	0.109

BMI, body mass index; C.I., confidence interval; CKD, chronic kidney disease; Ds, Disease; eGFR, estimated glomerular filtration rate by MDRD equation; KT, kidney transplantation; SE, standard error. ^a Generalized estimated equation analysis was performed. ^b Higher education was defined as receiving a diploma from college or higher. ^c Higher income was defined as monthly income above \$ 4,500. *P* value by generalized estimated equation analysis.



Supplementary Figure S1. Changes in SF-36 scores and CKD-targeted scores in CKD

patients. A, HRQOL at baseline and 5-year follow-up was assessed by SF-36 scores in CKD patients. B-C, Physical component summary (PCS) score (B) and mental component summary (MCS) score (C) were also assessed. D, Total CKD-targeted score was assessed by KDQOL-SF at baseline and 5-year follow-up. All values in panel a-d were displayed using Box and whisker plots. Top, middle, and bottom of boxes were the 75th, 50th, and 25th percentiles, respectively; whiskers illustrate the range. E-F, Each domain covering PCS or MCS scores in SF-36 scores (E) and the CKD-targeted scores (F) was separately analyzed. Each value in panel e and f was displayed as the mean \pm standard error of the mean. * $P < 0.05$ compared to baseline values (paired t-test). CKD, chronic kidney disease; KDQOL-SF, Kidney Disease Quality of Life Short Form; SF-36, Short Form-36 Health Survey (SF-36).