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EPIDEMIOLOGY OF CKD IN THE DELTA DISTRICTS OF TAMIL NADU: INSIGHTS FROM A REGIONAL REGISTRY

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AIMS: The delta districts of Tamil Nadu state are constituted by the region through which river Cauvery spreads into a network of tributaries before it drains into Bay-of-Bengal. We aimed to study the epidemiology of CKD in delta districts of Tami Nadu

METHODS:

- A hospital-based registry of CKD was created by the Thanjavur Trichy Nephrology Association (TANTRA) in Dec 2022
- 15 centers including teaching hospitals, private and public sector hospitals participated in the study
- Cross-sectional data were collected from CKD patients attending these centers

KEY FINDINGS:

- N = 2022
- Mean age = 57.2 ± 12.7 years (range: 14 – 93 years)
- 70% were men
- About 80% belonged to rural location and 41% were farmers
- Mean duration of CKD was 3.3 years
- 46% had diabetes mellitus and 70% had hypertension.
- **CKD-unknown was the most common cause of CKD (28%) followed by diabetic kidney disease (23.5%)**
- Prevalence of CKD-unknown in delta region was significantly higher than that of Indian CKD cohort (28% vs. 19.5%, P < 0.001).

CKD epidemiology in Delta districts vs national epidemiology

PARAMETER	DELTA COHORT N = 2202	Indian CKD COHORT N = 4056	P - value
Age in years (SD)	57.2 (12.7)	50.3 (11.8)	< 0.001
Men, n(%)	1533 (70.6%)	2725(67.1%)	< 0.001
Rural, n(%)	1753 (80%)	2626 (66.0%)	< 0.001
Farmers, n(%)	897 (40.8%)	-	-
CKD duration in years (SD)	3.3 (4.0)	3.19 (4.4)	0.053
DM, n(%)	1010 (45.9%)	1485(37.5%)	< 0.001
HTN, n(%)	1541 (70.0%)	3487 (87.0%)	< 0.001
First degree relative with CKD, n(%)	195 (8.8%)	358 (8.9%)	0.93
DKD, n(%)	518 (23.5%)	1011 (24.9%)	0.13
CTIN, n(%)	252 (11.5%)	940 (23.2%)	< 0.001
CKD Unknown, n(%)	612 (27.8%)	788 (19.5%)	< 0.001
CGN, n(%)	203 (9.2%)	598 (14.7%)	< 0.001
eGFR ml/min, Median (IQR)	21 (12 – 35)	40.5 (33.7 – 50.8)	< 0.001
Haemoglobin g/dl, (SD)	10.1 (2.1)	11.8	< 0.001

CKD epidemiology in Delta districts

PARAMETER	MALES (N = 1552)	FEMALES (N = 650)	P - value
Age in years (SD)	57.8 (12.6)	55.8 (12.8)	0.001
Rural, n(%)	1225 (80.8%)	498 (76.6%)	< 0.001
Low income group, n(%)	375 (24.1%)	173 (26.6%)	0.22
CKD duration yrs (SD)	3.3 (4.0)	3.5 (4.0)	0.43
DM, n(%)	712 (45.9%)	298 (45.9%)	0.99
DM duration yrs. (SD)	5.0 (7.6)	4.8 (7.1)	0.58
HTN, n(%)	455 (70.2%)	1086 (70.0%)	0.92
DKD, n(%)	359 (23.1%)	159 (24.4%)	0.50
CTIN, n(%)	172 (11.0%)	81 (12.4%)	0.35
CKD-unknown, n(%)	437 (28.1%)	175 (27.0%)	0.55
CGN, n(%)	137 (8.8%)	66 (10.1%)	0.32
SBP mm Hg, (SD)	132.3 (24.0)	134.7 (24.4)	0.03
DBP mm Hg, (SD)	80.9 (13.5)	80.8 (12.8)	0.75
Haemoglobin g/dl, (SD)	10.4 (2.2)	9.5 (1.8)	< 0.001
Anemia	605(39%)	400 (62%)	<0.001
eGFR	26.4 (18.0)	22.4 (16.3)	< 0.001
BMI kg/m2, (SD)	23.0 (4.4)	23.9 (5.3)	0.01
Obese, (%)	7.0%	17.2%	<0.001
Urine PCR (g/g), (SD)	3.8 (6.8)	2.6 (2.6)	0.19

CONCLUSION:

- Regional CKD registry could help us in quantifying disease burden, health infrastructure planning and prioritizing resources