PREVALENCE OF CHRONIC KIDNEY DISEASE IN TYPE 2 DIABETIC PATIENTS ATTENDING UNIVERSITY OF BENIN TEACHING HOSPITAL (UBTH)

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Presented at Nigerian Association of Nephrology Annual Scientific Conference & AGM (ABUJA 2013)

INTRODUCTION

- Chronic kidney disease (CKD) is an ever-growing problem worldwide, with an annual growth rate of 8%.

- Diabetes mellitus (DM) is a common cause of CKD worldwide, comprising one of the 3 common causes of CKD in Nigeria and its prevalence is on the increase.

- Approximately 20-40% of patients with type 2 diabetes will develop diabetic kidney disease.

- Early detection and institution of appropriate treatment will slow down the progression to end stage renal disease, hence these should be the priorities of physicians taking care of these patients.

Objectives

- To determine the prevalence of CKD and its associated factors in type 2 diabetic patients in UBTH.

METHODOLOGY

- **STUDY DESIGN:** A cross-sectional study.

- **PROTOCOL:**

  - 144 consenting type 2 diabetic outpatients were recruited over a period of 6 weeks.

  - Average fasting blood glucose and blood pressure of 3 consecutive clinic attendance were done.

  - Anthropometric measurements were taken and the body mass index was calculated

- Results of urinalysis over the last 3 clinic visits were recorded.

- The result of the fasting serum lipid profile and serum creatinine were recorded.

- Estimated GFR was calculated using the MDRD formula.

- P values <0.05 taken as significant for all comparisons

- Data was analyzed using SPSS version 16.0

DEFINITIONS

- Poor glycaemic control - FBG >130mg/dl.

- Poor blood pressure control- Systolic BP >130mmHg and/or Diastolic BP >80mmHg.

- Dyslipidaemia was defined as total cholesterol (TC) > 200mg/dl, TG > 150mg/dl, LDL- cholesterol > 100mg/dl and HDL-cholesterol < 50mg/dL in females and <40mg/dl in males

- CKD was defined in these patients as the presence of persistent proteinuria on dipstick ≥ 3 months or and GFR< 60mls/min.

# RESULTS

Table 1: clinical characteristics of study participants

Variables	Type 2 Diabetics n= 144
Mean Age (yrs)	57.49 ± 11.49
Sex Male Female	53 (36.8%) 91 (63.2%)
Hypertension Yes No	97 (67.4%) 47 (32.6%)
BP control Good BP control Poor BP control	29 (29.9%) 68 (70.1%)

Table 1: clinical characteristics of study participants

Variables	Type 2 Diabetics n= 144
Glycaemic control	
Good control	77(53.5%)
Poor control	67(46.5%)
Persistent Proteinuria	
Yes	41(28.5%)
No	103 (71.5%)
Dyslipidemia	
Yes	93(64.6%)
No	51(35.4%)
CKD	
Yes	44(30.6%)
No	100(69.4%)
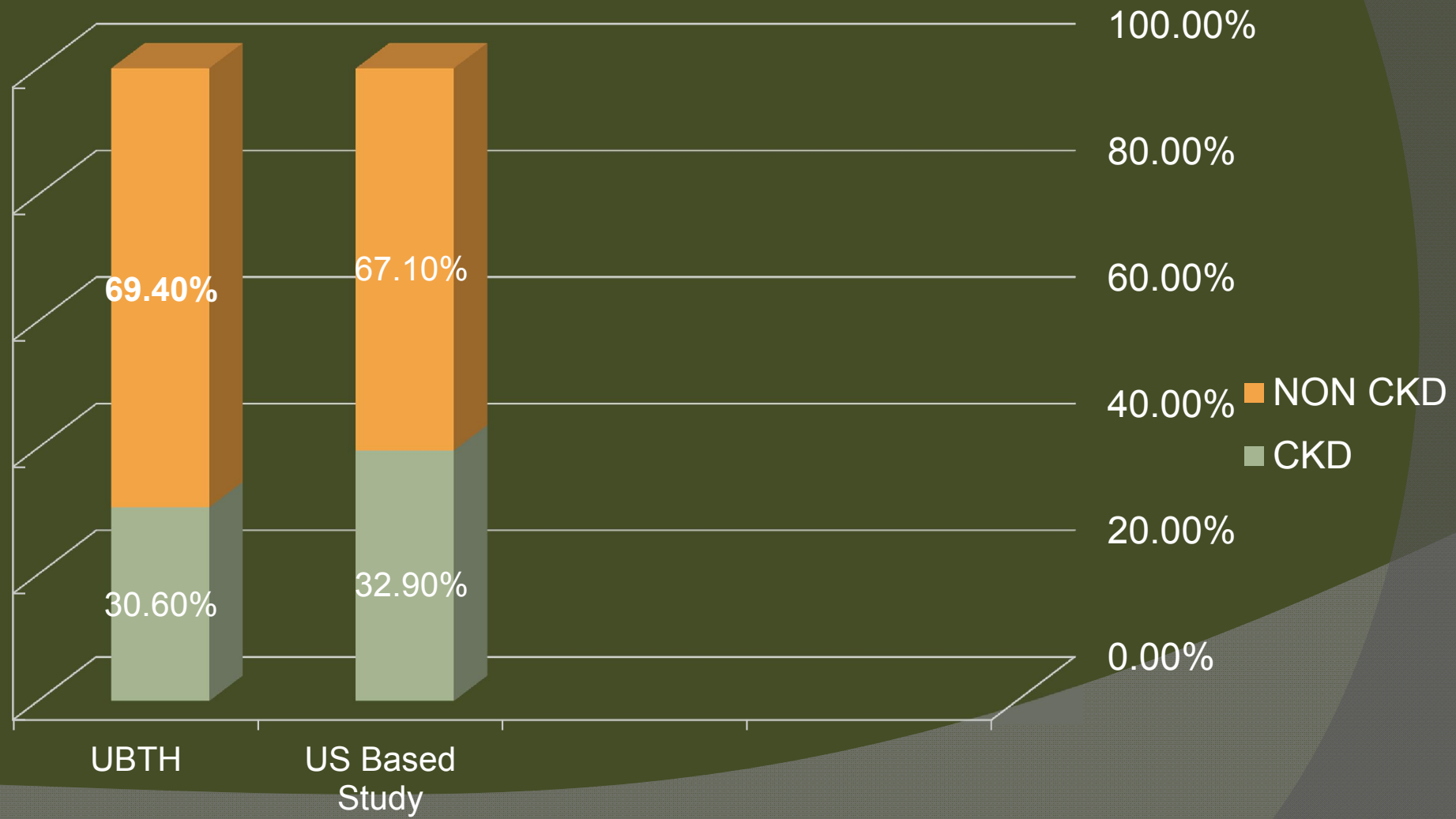
Sex distribution of the CKD Population

CKD in Type 2 DM UBTH
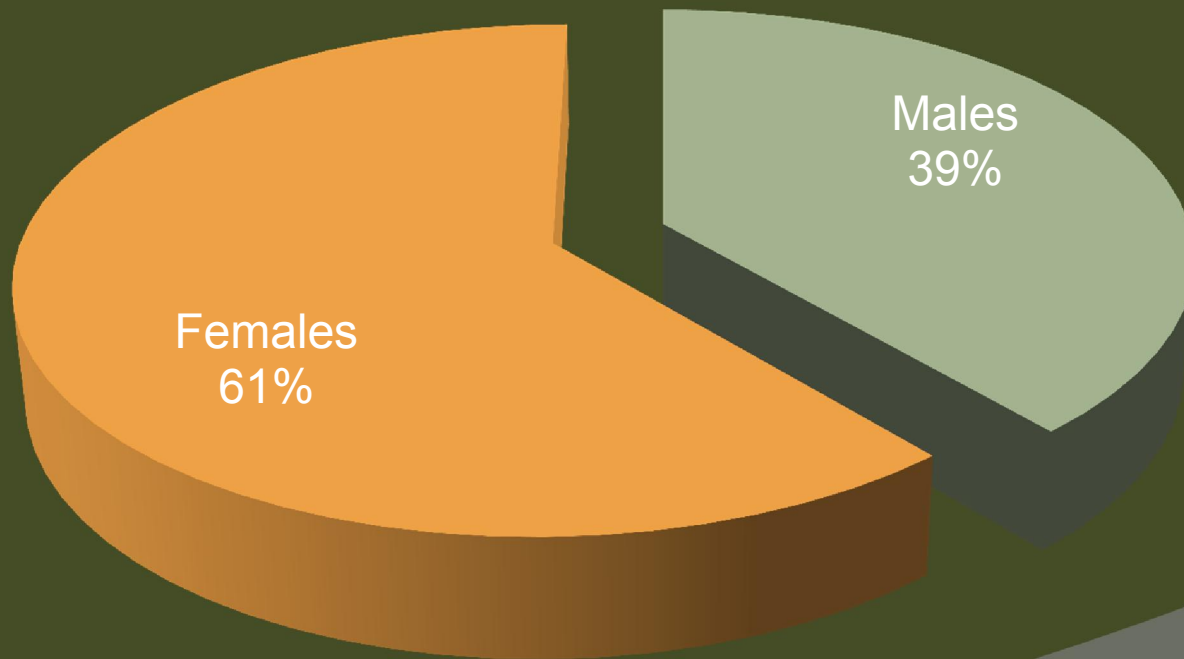
Distribution of CKD Stages
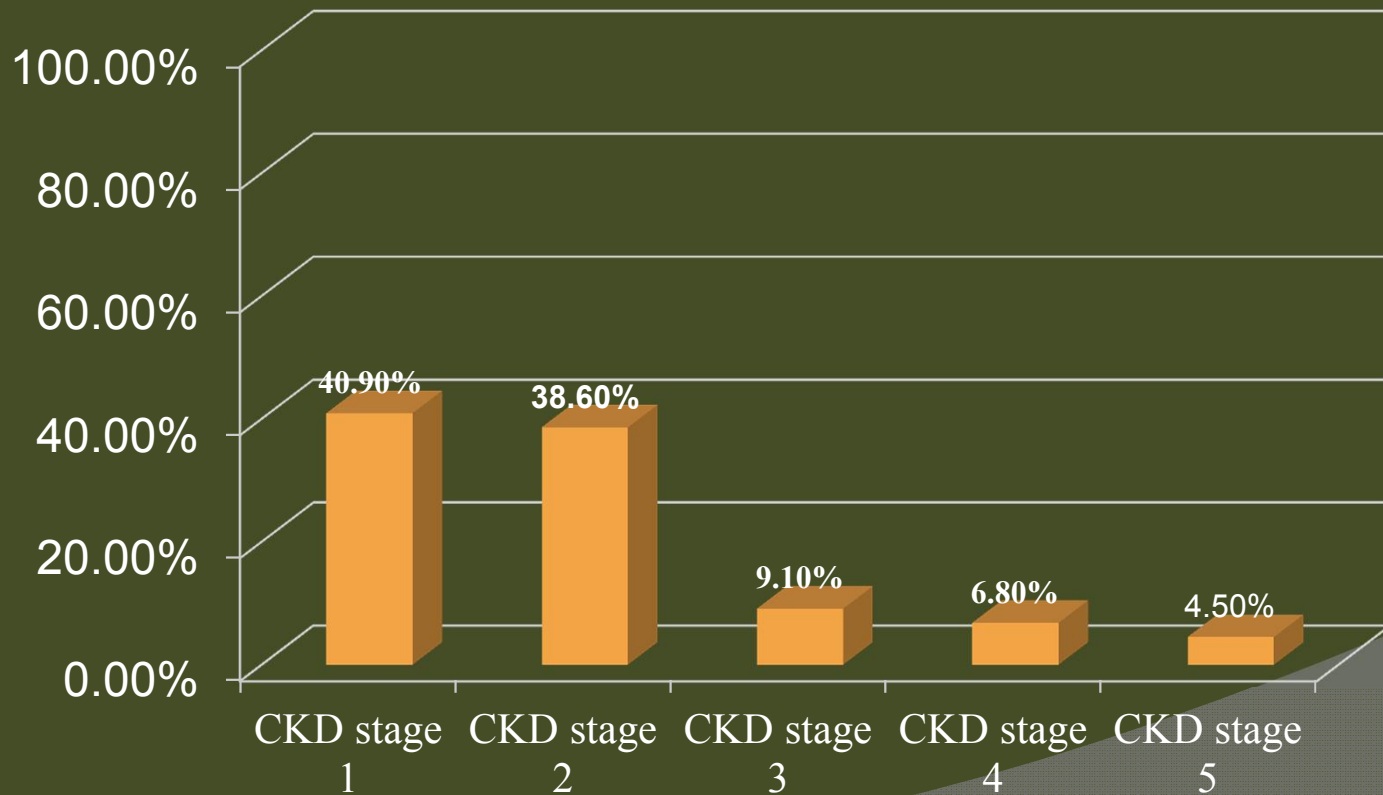
Table 2: Clinical parameters of CKD and non CKD patients

Variable	CKD	NON CKD	P VALUE
AGE(yrs)	59.05 ± 10.640	56.81 ± 11.833	0.265
Duration of HTN(yrs)	6.25 ± 5.400	7.73 ± 7.623	0.314
Duration of DM(yrs)	**7.95 ± 7.377**	**5.17 ± 5.440**	**0.028**
Syst. BP(mmHg)	**139 ± 16.250**	**130 ± 14.755**	**0.002**
Diastolic BP(mmHg)	80.70 ± 9.605	78.71 ± 8.558	0.235
BMI(kg/m²)	27.752 ± 5.0859	28.53 ± 5.0164	0.373

Table 3: Biochemical parameters of CKD and non CKD patients

VARIABLE	CKD (Mean ± SD)	NON CKD (Mean ± SD)	P VALUE
FBG(mg/dl)	133.48 ± 44.28	137.90±44.3	0.623
TOTAL CHOLESTEROL (mg/dl)	183.11 ± 51.29	175.66 ± 42.82	0.402
HDL(mg/dl)	71.89 ± 12.75	52.12 ± 16.69	0.639
LDL(mg/dl)	110.95 ± 45.62	109.96 ± 93.06	0.212
TRIGLYCERIDE (mg/dl)	**125.09 ± 49.33**	**106.15 ± 38.1**	**0.027**
SERUM CREATININE (mg/dl)	**1.36 ± 1.20**	**0.87 ± .030**	**0.0001**
ESTIMATED GFR (mls/min)	**84.19 ± 38.3**	**107.99 ± 46.17**	**0.002**

CONCLUSION

- CKD is prevalent in type 2 diabetics.

- Variables that were significantly higher in diabetics with CKD include:

  - Systolic blood pressure

  - Duration of diabetes mellitus

  -Serum triglyceride

  -Serum creatinine & estimated GFR

RECOMMENDATION

- Regular screening for CKD among at risk population-Diabetic clinics

- Early referral to the Nephrologist when the blood pressure is uncontrolled and there is evidence of declining eGFR

Limitations

- Use of FBG as a measure of glycaemic control.

- Use of urinalysis strips to assess level of proteinuria.

Thank You