



**ORIGINAL RESEARCH PAPER**

**Medicine**

**STUDY THE CAUSATIVE AGENT OF CHRONIC KIDNEY DISEASE PATIENTS OF PMCH**

**KEYWORD:** chronic Kidney Disease (ckd), Hypertension, Anemia, Hypelipidemia.

**Dr. Raj Kishor Singh**

Senior Resident, Department of Medicine PMCH Patna

**Dr. Umesh Kumar**

Senior Resident, Department of Medicine PMCH Patna

**Dr. Anand Gaurav\***

Senior Resident, Department of Medicine PMCH Patna. \*Corresponding Author.

**ABSTRACT**

**BACKGROUND:** Chronic Kidney Disease (CKD) is determined by the presence of kidney injury and by the level of renal function, assessed according to the glomerular filtration rate. including increased incidence of cardiovascular disease, hyperlipidemia, anemia and metabolic bone disease.

**METHODS:** This observational case study will be conducted among patients of newly diagnosed or known cases of chronic kidney disease admitted or attending outdoor clinic at Patna medical college and hospital Patna Bihar.

**RESULTS:** Twenty three patients out of 75 were diabetic, 19 patients had chronic kidney disease of unknown etiology and 12 had both DM and HTN, only one patient had CKD because of RCC.

**CONCLUSION:** Most common etiologies of CKD patients on hemodialysis are Diabetic nephropathy.

**INTRODUCTION**

Chronic Kidney Disease (CKD) is determined by the presence of kidney injury and by the level of renal function, assessed according to the glomerular filtration rate. CKD is divided into five stages. Until the fourth stage of the disease, conservative treatment is recommended. End-Stage Renal Disease (ESRD), the most advanced stage, when the kidneys can no longer maintain homeostasis of the body, the patient will depend on dialysis or kidney transplant.<sup>1,2</sup>

The cause of CKD is unclear in majority of cases, however renal biopsy could help to reach aetiology in most case. The cause of CKD depends on presence or absence of underlying systemic diseases and location of known or presumed pathologic abnormalities (glomerular, tubule-interstitial, vascular or cystic and congenital diseases).<sup>1</sup>

The clinical course is typically a progressive loss of nephron function ultimately leading to end stage renal disease (ESRD) characterized by hypertension, anemia, renal bone disease, nutritional impairment, neuropathy, impaired quality of life and reduced life expectancy ultimately needing some form of renal replacement therapy.

This puts a substantial burden on global health resources since all modalities of treatment are expensive. The anemia of CKD increase morbidity and mortality for cardiovascular complications (angina, left ventricular hypertrophy (LVH) and worsening heart failure), cardiorenal anemia syndrome,

The Prevalence of these stages of CKD in the Indian population is follows. 1.8% for stages 1, 3.2% for stages 2, 7.7% for stages 3 and 0.35% for stages 4 and 5. Patients with stages 3 or 4 disease progress to end stages renal disease. Anemia is defined as a reduction in one or more of the major red blood cell measurements, normochromic, normocytic anemia usually accompanies progressive CKD and the overall prevalence of CKD associated anemia is approximately 50%.

Chronic Kidney Disease (CKD) is emerging as an important public health problem, not only in developed countries, but also in developing countries. Reasons for rising incidence of CKD are increasing incidence of diabetes and hypertension.<sup>3</sup> WHO has identified kidney diseases as 12th and 17th major cause of death and disability worldwide, respectively.<sup>4,5</sup> This study was conducted to see the etiological profile of the CKD patients.

**MATERIAL AND METHODS**

This observational case study will be conducted among patients of newly diagnosed or known cases of chronic kidney disease admitted or attending outdoor clinic at Patna medical college and hospital Patna Bihar. The diagnosis of chronic kidney disease will be based on patient history, physical examination, Biochemical findings, urine microscopy and Ultrasonography.

**(I) Inclusion Criteria:**

**Patients with:**

Newly diagnosed or known case of chronic kidney disease patients.

**(ii) Exclusion Criteria:**

**Patients with:**

- Chronic liver disease
- Chronic obstructive pulmonary disease
- Acute kidney injury
- Primary hyperparathyroidism

**Observation**

The present study included 75 patients with chronic kidney failure who fulfilled inclusion criteria and were either admitted or attended outpatient department, at the Patna medical college and hospital Patna. The data obtained from these cases formed the basis of our study.

**Table 1: Age & Gender Wise Distribution**

Age (Yrs)	Male	Female	Total
≤ 20	1(2.50%)	1(2.86%)	2(2.67%)
21-40	8(20.0%)	13(37.14%)	21(28.00%)
41-60	13(32.50%)	11(31.43%)	24(32.00%)
≥ 60	18(45.0%)	10(28.75%)	28(37.33%)
Total	40(100.00%)	35(100.00%)	75(100.00%)

Fifty two (69.33%) patients out of 75 were more than 40 year of age. 40 patients (53.3%) were male and 35 (46.7%) were female.

**Table 2: Etiology**

Etiology	No. of patients	Percentage
Diabetes	23	30.67
Hypertension	10	13.33
Diabetes+Hypertension	12	16.00
Analgesic Nephropathy	3	4.00
Obstructive Uropathy	5	6.67
Unknown etiology	19	25.33
Renal Cell Carcinoma	1	1.33
Urinary Tract Infection	2	2.67

Twenty three patients out of 75 were diabetic, 19 patients had chronic kidney disease of unknown etiology and 12 had both DM and HTN, only one patient had CKD because of RCC.

### DISCUSSION

A cross-sectional observational study of 75 patients, who fulfilled inclusion criteria, was done at Patna medical college and hospital patna bihar.

Majority of patients in the study were above 40 years of age. Mean age was  $51.88 \pm 17.10$  years with a range of 17-80 years. Of these 53.3% were male and 46.7% were female. Forty eight percent had rural back ground where as 52% had urban.

Major etiology of CKD was diabetes (30.6%) with almost equal male (47.83%) to female (52.17%) ratio. *Vikrant et al*<sup>6</sup> also found diabetes as a cause of CKD in 27.7% patients and *Valson et al*<sup>7</sup> found diabetes as a cause of CKD in 36.6% of patients. Of the other causes hypertension (13.33%), analgesic nephropathy (4%), obstructive uropathy (6%) were more common in males while urinary tract infection (2.6%) and unidentified cause (25.33%) were more commonly seen in females.

All the patients had CKD of stage III or more. Maximum number of patients had stage V disease(54.67%) followed by stage IV (32%) and stage III (13.30%). *Vikrant et al*<sup>6</sup> also found that all patients had CKD of stage III or more. However in their study majority of patients had stage III disease (39.6%) followed by V and IV.

### Summary

Patients with CKD present several complex management issues to health care providers, the national kidney foundation is a significant accomplishment, which stratifies patients according to disease severity. these interventions may reduce morbidity and mortality in these patients, with early identification and treatment of anemia, renal osteodystrophy, uremic malnutrition, hyperlipidemia and cardiovascular disease, primary care physicians and nephrologists together are making significant strides toward extending and improving the lives of patients with chronic renal disease.

### CONCLUSIONS

Most common etiologies of CKD patients on hemodialysis are Diabetic nephropathy. The increase in metabolic disorders could result in a greater burden of CKD in the near future. The best quality health outcomes, prevention, treatment.

### REFERENCES

1. National Kidney foundation. K/DOQI clinical practice guidelines for chronic kidney disease: evaluation, classification and stratification. *AM J Kidney Dis.* 2002;39(2suppl1):S18.
2. Like RG. Chronic renal failure. *Goldman: Cecil Textbook of Medicine.* 21st ed. Philadelphia:WB Saunders Company; 1998. p. 571-8.
3. Gupta R; Trends in hypertension epidemiology in India. *J Hum Hypertens* 2004; 18(2):73-78
4. World Health Organization; Burden of Disease Project. Available from [http://www.who.int/healthinfo/global\\_burden\\_disease](http://www.who.int/healthinfo/global_burden_disease)
5. Khalil RA. Sex hormones as potential modulators of vascular function in hypertension. *Hypertension.* 2005;46:249-54
6. Vikrant S and Parashar A. Prevalence and severity of disordered mineral metabolism in patients with chronic kidney disease: A study from a tertiary care hospital in India. *Indian J Endocrinol Metab.* 2016. 20(4):460-7.
7. Valson AT, Sundaram M, David V, Deborah MN, Varughese S, Basu G et al. Profile of incident chronic kidney disease related-mineral bone disorders in chronic kidney disease Stage 4 and 5: A hospital based cross-sectional survey; *Indian J Nephrol.* 2014; 24(2):97-107.
8. Hsu CY, Vittinghoff E, Lin F, et al. The incidence of end stage renal disease is increasing faster than the prevalence of chronic renal insufficiency. *Ann. Intern. Med.* 2004; 141:95-101
9. Besarb A, Levin A. Defining a renal anemia management period. *Ann. J. kidney Dis.* 2000; 36:S13-S23
10. McClellan W, Aronoff SL, Bolton wk et al. The prevalence of anemia in patients with chronic kidney disease. *Curr. med Res. Opin.* 2004; 20:1501-1510.