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Research Article

**ANALYSIS OF ROLE OF CARDIOVASCULAR DAMAGE  
AND MI DUE TO CHRONIC KIDNEY DISEASE IN  
PAKISTAN**

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**Article Received:** November 2019 **Accepted:** December 2019 **Published:** January 2020**Abstract:**

**Introduction:** Cardiovascular disease in patients with chronic kidney disease (CKD) is common and has major implications in terms of both human suffering and health economics. **Objectives of the study:** The main objective of the study is to analyse the role of cardiovascular damage and MI due to chronic kidney disease in Pakistan. **Material and methods:** This cross sectional study was conducted in health department Punjab during 2019. For this purpose we select the 100 patients of CKD who attend the hospital regularly. We develop a questionnaire for finding the knowledge of people about an association of CKD with cardiovascular damage. **Results:** Table 01 shows the prevalence of CKD. Among all, 218(74.40%) had GFR >90, 61(20.81) were in CKD stage 2 with eGFR 60-89, and 14(4.77%) in CDK stage 3 with eGFR 30-59. **Conclusion:** It is concluded that the finding of a possible risk of ESRD associated with childhood kidney diseases implies that there is an even greater, albeit unmeasured, risk of the considerably more prevalent antecedent stages of chronic kidney disease.

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**INTRODUCTION:**

Cardiovascular disease in patients with chronic kidney disease (CKD) is common and has major implications in terms of both human suffering and health economics. CKD is defined by the presence of kidney damage and level of kidney function irrespective of the type of kidney disease [1]. Among individuals with chronic kidney disease, the stages are defined by the level of kidney function, and CKD stage 3 comprises those with a stable, or gradually declining, estimated glomerular filtration rate (eGFR) 30 to 60 mL/min/1.73 m.

Recognition of kidney disease has increased greatly in recent years, partly due to the widespread introduction of eGFR reporting, and partly as a result of the aging population which has an increasing prevalence of hypertension and diabetes conditions in which minor kidney disease is very common, and clinically significant kidney disease is unfortunately often recognized too late to halt the relentless decline in kidney function [2]. As a result of government initiatives UK primary care physicians are now keeping registers of patients with CKD in the same way that they have previously compiled them for diabetes and ischemic heart disease (IHD) [3]. Consequently the number of new patient referrals to nephrology clinics has soared over the last few years, and yet the key elements of hypertension and cardiovascular disease are often inadequately managed.

Renal origin of cardiovascular disease (CVD) was first suggested by Richard Bright as early as in 1836 [4]. This has been confirmed by multiple epidemiological studies wherein as compared with the general population, patients with chronic kidney disease (CKD) had more frequent and severe CVD.

CKD per se is considered to be a coronary artery disease (CAD) equivalent and in fact persons with early stages of CKD are more likely to die of CVDs than progress to end-stage renal disease (ESRD).<sup>1</sup> Though the magnitude of this risk has been repeatedly discussed, the trials have conveniently excluded patients with renal impairment. Thus, evidence-based management of CVD in CKD is lacking. This has significant treatment implications, as measures directed at preventing the progression of CKD would prevent cardiovascular morbidity and mortality too [5].

**Objectives of the study**

The main objective of the study is to analyse the role of cardiovascular damage and MI due to chronic kidney disease in Pakistan.

**MATERIAL AND METHODS:**

This cross sectional study was conducted in health department Punjab during 2019. For this purpose we select the 100 patients of CKD who attend the hospital regularly. We develop a questionnaire for finding the knowledge of people about an association of CKD with cardiovascular damage. A specific questionnaire was developed to determine viral hepatitis perception. This instrument was composed of two topics: demographic characteristics and viral hepatitis perception. Sociodemographic data included gender, age, education, and monthly family income.

**RESULTS:**

Table 01 shows the prevalence of CKD. Among all, 218(74.40%) had GFR >90, 61(20.81) were in CKD stage 2 with eGFR 60-89, and 14(4.77%) in CDK stage 3 with eGFR 30-59 .

**Table-1:** Chronic Kidney Disease prevalence.

	Number	Percentage
GFR >90	218	74.40
CKD stage 2 eGFR between 60-89	61	20.81
CKD stage 3 eGFR between 30-59	14	4.77

CKD: Chronic Kidney Disease

GFR: Glomerular Filtration Rate

eGFR: Estimated GFR.

**DISCUSSION:**

We found that the risk of ESRD among adolescents with a history of pyelonephritis was nearly four times as high as the risk among those with no history of childhood kidney disease. Many studies have related chronic kidney disease to postinfection renal scarring and vesicoureteral reflux [6]. A 2011 review suggested that concomitant congenital anomalies of the kidney and urinary tract may contribute to poor outcomes among patients with pyelonephritis and emphasized a distinction between primary renal damage that precedes infection and scars related to urinary tract infections. Our current finding of an increased risk of ESRD among adolescents with a history of apparently resolved glomerular disease is consistent with the increased risk of hypertension in adulthood that we found in a subgroup of this population in a previous study [7,8]. Furthermore, as CKD is a progressive disease, most patients without treatment will develop ESRD and other metabolic complications. This not only exerts a great burden on the struggling economy, but also affects the productivity of a society. Evidence-based healthcare policies have been shown to be very successful in decreasing the burden of CKD in Brazil, Cuba and Bolivia respectively, and serve as an excellent model for other developing countries [9].

**CONCLUSION:**

It is concluded that the finding of a possible risk of ESRD associated with childhood kidney diseases implies that there is an even greater, albeit unmeasured, risk of the considerably more prevalent antecedent stages of chronic kidney disease. Overall, our study suggests that childhood kidney diseases are possible risk factors for future ESRD

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