ORIGINAL ARTICLE
RISK FACTORS OF CHRONIC KIDNEY DISEASE LEADING TO DIALYSIS IN PATIENTS PRESENTING AT AYUB TEACHING HOSPITAL ABBOTTABAD

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Background: There has been an immense increase in the incidence and prevalence of chronic kidney disease (CKD) in the last few years globally. Developing countries are more prone to suffer the complications due to greater poverty and higher expenses of treatment. Dialysis has become a routine procedure rather than exception. This study was conducted with the purpose to determine risk factors of CKD patients leading to dialysis. **Methods:** This cross-sectional study was conducted at Ayub Teaching Hospital, Abbottabad (ATH) from December 2018 to April 2019. Patients admitted at the dialysis unit of ATH with the diagnosis of CRF were included. Data was analysed using SPSS version 20.0. **Results:** Out of 152 CRF patients 99 (65.1%) were males. Majority of patient with CKD were on dialysis for more than 10 months. Out of 152 patients of CRF, 32 (21.1%) were diabetic. Hypertension was previously diagnosed in 148 (97.4.%). **Conclusion:** Hypertension was identified as major cause leading to CRF and subsequently dialysis.
Keywords: Chronic Kidney Disease; Dialysis; Risk Factors

INTRODUCTION

The indicators of kidney damage are used to define CKD, i.e., imaging or proteinuria (commonly using albumin to creatinine ratio, ACR), and decrease in kidney function (less than normal GFR calculated from serum creatinine concentration).[1] Majority of old aged patients who have diabetes and hypertension are the ones in which CKD is frequent. That's why it explains the fact that these are considered as leading risk factors in its development.[2]

Worldwide, one of the leading causes of death is CKD.[3] Although it is recognized as a global concern, people from developing countries are relatively affected more as compared to people from developed countries. According to a systemic review carried out in 2015, CKD was reported to affect 109.9 million from developed countries as compared to 387.5 million from developing countries.[4] The high risk that CKD progress to end stage renal disease (ESRD), requiring costly dialysis or kidney transplantation for renal replacement therapy. Globally, over 2 million CKD patients are in need of chronic renal replacement therapy.[5]

There is a major rise in the incidence of CKD globally. In a comprehensive review and meta-analysis, the world-wide prevalence of CKD was found to be 23.4% in Stage 1–5 and 10.6% in Stage 3–5.[6]

A gross regional difference in the prevalence of CKD has been observed globally. For example, in the United States, the adjusted prevalence of CKD Stages 3–5 in adult white general population ranged from 4.3% in the states of Delaware and Pennsylvania to 16.7% in Florida. Among African-Americans, it ranged from 6.7% in California to 13.4% in the Mid-west states.[7] Similar heterogeneity has been observed across European countries. For example, the adjusted prevalence of CKD Stages 1–5 extended from 3.31% in Norway to 17.3% in northwest Germany and the adjusted prevalence of CKD Stages 3–5 varied between 1.0% in central Italy and 5.9% in northwest Germany.[8] This study was conducted with the purpose to determine risk factors of CKD patients leading to dialysis in our setup. This study proved to be very important and further research is required as to develop definite cause disease relationship between risk factors like Hypertension and Diabetes and CKD. This research found out that Hypertension is most likely risk factor for CKD in our patient rather than Diabetes giving us perspective of demographic variation of risk factors.

MATERIAL AND METHODS

This cross- sectional study was conducted at Ayub Teaching Hospital, Abbottabad from December 2018 to April 2019. Patients admitted at the dialysis unit of ATH with the diagnosis of CRF were interviewed after informed consent. After ethical approval, data was collected on a proforma and analysed using SPSS version 20.0.

RESULTS

Out of 152 CRF patients 99 (65.1%) were male and 53(34.9%) were female. Age Group, (10.5%) patients were in age group (1–25 years of age),78(51.3%) patients were in age group (26 to 50 years) and 51(38.2%) patients were in more than 51 years of age. Patients reported their duration of CRF as 37 (24.3%)

had CRF for 1 to 10 months, 24(15,8%) had CRF for 11 to 20 months and 91 (59.9%) were having CRF for more than 21 months (21+). The duration of dialysis for patient who took part in our study ,76 (50%) were on dialysis for 1 to 10 months,31(20.4%) patients had dialysis for 11 to 20 months and patient on dialysis for 21 months or above were 45 (29.6).

Out of 152 patients of CRF 32 (21.1%) were having diabetes while 120(78.9%) patients were non-diabetic. Hypertension was previously diagnosed in 148(97.4%) patient while 4 (2.6%) were non hypertensive. Eleven (7.2%) patients had previously used non-steroidal anti-inflammatory drugs (NSAID).

DISCUSSION

Nowadays, chronic non-communicable diseases represent a great challenge for the countries all over the world but under-privileged communities like Pakistan are affected more. Many prevention strategies[9] are being implemented in 1st world countries but these prevention goals are very hard to achieve in 3rd world due to poverty, corruption and lack of long-term health policies. Diabetes and hypertension are major risk factors[10] for CRF ultimately leading to dialysis.

The results of our research noted that majority of patients with CRF leading to dialysis were hypertensive while many were diabetic too. In CKD patients, the prevalence of hypertension increases progressively with the disease stage. According to reports of a national survey carried out in the USA, hypertension was prevalent in 23.3% of individuals without CKD, 35.8% of individuals with stage 1, 48.1% of stage 2, 59.9% of stage 3 and 84.1% of stage 4–5 CKD patients.[11] Diabetes mellitus type 1 and type 2 are also known risk factors for development of CKD. In a study carried out in the US, DM was reported in 40% of individuals diagnosed with CKD.[12] Shortcoming of the research were as all the patients were selected from single unit from Ayub Teaching Hospital and the risk factor like diabetes and hypertension were ascertained only through history as no proper record was present with majority of patient. Such diseases require preventive measures as a corner stone to stop their progression. Lack of awareness and medical facilities at grass root level lead to undiagnosed cases with continuously deteriorating condition who come in contact with health care system at the late stages of diagnosis and intervention at that time is either too costly or not available at all which is a major blow to our current health system. The weakness of this study is the descriptive design as well as at a small level in one setup. However, the strengths include rigor employed in collection of data. The study may be replicated with bigger sample size and analytical designs.

CONCLUSION

In conclusion it can be said that hypertension was a leading risk factor for CRF and subsequently dialysis.

AUTHORS' CONTRIBUTION

SM: Main script writing. ZS: Data collection, paper writing. FN: Statistical analysis. NR, AR, RA: Data collection.

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