Background and objectives: Chronic kidney disease (CKD) is an important challenge for health systems around the world, consuming a huge proportion of health care finances. It is even more significant for developing countries which now face the double burden of infectious diseases and growing problems of non-communicable diseases such as obesity, diabetes and hypertension. About 85% of the world populations live in less developed part of the world where CKD prevention programs are either rudimentary or virtually nonexistent. Morbidities and mortalities emanating from CKD in these countries are immense and related to limited access for treatment options.

Renal replacement therapy (RRT) is the mainstay of care for patients with end stage renal disease (ESRD). Dialysis as an option of RRT prolongs survival, reduces morbidities and improves quality of life. However, despite many technical advances, morbidities and mortalities of patients on dialysis remain unacceptably high and their quality of life is often poor. Common independent predictors of survival are age, race, serum albumin at the start of dialysis, activity level at the start of dialysis, and presence of certain comorbidities such as heart failure and cancer.

For many years the magnitude of ESRD in India has not been studied. The use of dialysis in the country as a treatment strategy for ESRD dates less than a decade. In addition, access for dialysis is limited and is a highly unaffordable for the general public. The objective of this study was to study clinical profile of patients of Chronic Renal Disease who are undergoing hemodialysis at MGM Hospital Navi Mumbai.

Methodology: The study was a cross sectional study carried out on 50 patients of chronic kidney disease undergoing hemodialysis at our center as per the pre specified inclusion and exclusion criteria. The data was collected by using questionnaire which consists of characteristics related to demographic profiles, causes and risk factors of renal disease, clinical conditions of patients at initiation and last session of dialysis and treatments given. The outcome of all patients in terms of survival and mortality was assessed at the end of the study.

Results: In our study, Hypertensive nephropathy was seen as predominant etiology in 56% patients followed by diabetic nephropathy in 16% patients, obstructive uropathy in 14% and with unknown causes in 14% patients respectively. Maximum patients had B/L pedal edema 56% as their clinical finding while pallor was seen in 44% of study population. 16% patients had both pedal edema and pallor. Mean hemoglobin of the patients was 7.936 mg/dl in alive and 6.8 mg/dl in dead patients respectively. Mean serum creatinine of patients was 9.756 mg/dl in alive and 5.770 mg/dl in dead patients.

Conclusion: These findings enable the early identification of patients at risk, enabling improvements and adjustment in the care of patients on hemodialysis and therefore improvement in survival of such patients. Patients diagnosed earlier with CKD and started on planned dialysis tend to have lower mortality rates.
examination). In the study population, the mean systolic blood pressure was 156 mmHg and diastolic blood pressure was 97.24 mmHg. USG findings in our study were Small sized kidneys with increased echotexture seen in 80% individuals while 20% patients had small sized kidneys with normal echotexture. Mean hemoglobin of the patients was 7.936 mg/dl in alive and 6.8 mg/dl in dead patients respectively. Mean serum creatinine of patients was 5.770 mg/dl in alive and 9.756 mg/dl in dead patients. Mean area of patients was 101.40 mg/dl in alive and 75.33 mg/dl in dead patients respectively. All patients were on hemodialysis out of which 8.5% patients were on once weekly hemodialysis, 64% were on twice weekly hemodialysis and 28% were on thrice weekly dialysis. The comparison between frequency of HD and mortality is shown in (graph no. 5 HD frequency). AV fistula was constructed in 2 patients of Once weekly, 18 patients of twice weekly, 9 patients of thrice weekly Hemodialysis respectively. Dialysis catheter was present in 1 patient of Once weekly, 12 patients of twice weekly, 3 patients of thrice weekly Hemodialysis respectively whereas Permanent catheterization was present in 1 patient of Once weekly, 02 patients of twice weekly, 02 patients of thrice weekly Hemodialysis respectively (graph no. 6 HD characteristics).

Discussion:
Chronic kidney disease (CKD)—or chronic renal failure (CRF), as it was historically termed—is a term that encompasses all degrees of decreased renal function, from damaged-at risk through mild, moderate, and severe chronic kidney failure. CKD is a worldwide public health problem. The Kidney Disease Outcomes Quality Initiative (KDOQI) of the National Kidney Foundation (NKF) established a definition and classification of CKD in 2002 (2). The guidelines define CKD as either kidney damage or a decreased glomerular filtration rate (GFR) of less than 60 mL/min/1.73 m2 for at least 3 months. Whatever the underlying etiology, once the loss of nephrons and reduction of functional renal mass reaches a certain point, the remaining nephrons begin a process of irreversible sclerosis that leads to a progressive decline in the GFR. Patients with CKD stages 1-3 are generally asymptomatic. Typically, it is not until stages 4-5 (GFR <30 mL/min/1.73 m2) that endocrine metabolic derangements or disturbances in water or electrolyte balance become clinically evident. At every age, patients with ESRD on dialysis have significantly increased mortality when compared with nondialysis patients and individuals without kidney disease. At age 60 years, a healthy person can expect to live for more than 20 years, whereas the life expectancy of a patient aged 60 years who is starting hemodialysis is closer to 4 years. Among patients aged 65 years or older who have ESRD, mortality rates are 6 times higher than in the general population (3).

The most common cause of sudden death in patients with ESRD is hyperkalemia, which often follows missed dialysis or dietary indiscretion. The most common cause of death overall in the dialysis population is cardiovascular disease; cardiovascular mortality is 10-20 times higher in dialysis patients than in the general population (4).

The morbidity and mortality of dialysis patients is much higher in the United States than in most other countries, which is probably a consequence of selection bias. Because of liberal criteria for receiving government-funded dialysis in the United States and the use of rationing (medical and economic) in most other countries, US patients receiving dialysis are on the average older and sicker than those in other countries.

In the National Health and Nutrition Examination Survey (NHANES) III prevalence study, hypoalbuminemia (a marker of protein-energy malnutrition and a powerful predictive marker of mortality in dialysis patients, as well as in the general population) was independently associated with low bicarbonate, as well as with the inflammatory marker C-reactive protein. A study by Raphael et al
suggests that higher serum bicarbonate levels are associated with better survival and renal outcomes in African Americans (5).

For the treatment of any disease two important factors need to be considered—availability and affordability. As far as India is concerned, there is shortage of nephrologists as well as haemodialysis units and the cost of treatment makes the treatment inaccessible for most.

Conclusion:
Our study tried to analyze the clinical profile of patients of chronic kidney disease and impact of hemodialysis on their outcome. These findings enable the early identification of patients at risk, enabling improvements and adjustment in the care of patients on hemodialysis and therefore improvement in survival of such patients. Patients diagnosed earlier with CKD and started on planned dialysis tend to have lower mortality rates.

References