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Assesmment Of Complications In Kidney Failure Patients Those Undergoing Hemodialysis

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Abstract: Chronic kidney disease is a significant public health problem affecting more than 20 million people world-wide. A prospective observational study was carried out to assess the complications in patients with chronic renal failure undergoing Haemodialysis. The CKD questionnaires were used to collect the data. The sample consists of 200 patients. Data was collected for a period of 6 months September 2018–February 2019 in Tertiary Care Centre, Hyderabad. The results were documented. various social, demographic and clinical aspects have been analysed in our studies and frequency and duration of dialysis, comorbidities and complications. From our study it is concluded that complications during haemodialysis can be affected by social, demographicand clinical aspects.

Index Terms **- CKD Questionnaires, Haemodialysis, Complications.**

I. INTRODUCTION

Chronic kidney disease (CKD) is recognized as a major health problem affecting approximately 6% of the Indian population. Numbers of prevalent CKD patients will continue to rise, reflecting the growing elderly population and increasing numbers of patients with diabetes and hypertension. As well documented in the literature, the nephrologists rarely manage the medical needs of CKD patients until renal replacement therapy is required. In this chapter we will define CKD staging and discuss five complications associated with CKD: anaemia, hyperlipidemia, nutrition, osteodystrophy, and cardiovascular risk.

Kidney disease is also called as end stage renal disease(ESRD) is the last stage of chronic kidney disease. when your kidney fails, it means they have stopped working well enough for you to survive without dialysis or a kidney transplant. In most cases kidney failure is caused by other problems that have done permanent damage to your kidneys little by little over time.. If they damage to your kidneys continues to get worse and your kidneys are less able to do their job, you have chronic kidney disease. kidney failure is the last stage of chronic kidney disease, this is why called end stage renal disease. Sometimes the kidneys can stop working very suddenly it is called as Acute kidney injury. common causes of Acute renal failure include mainly Heart attack, Drug abuse, insufficient bloodflowing to the kidneys, urinary tract infections.

CKD Classification/Staging:

CKD the term indicates Chronic Kidney Disease means lasting damage to the kidneys that can get worse over time. If the kidney damage is very bad your kidneys may stop working. This is called Kidney failure or End stage Renal Disease(ESRD). Both complications and likelihood of progression to end-stage renal disease requiring renal replacement therapy are more likely to occur in patients with severe CKD. To facilitate assessment of CKD severity and, the National Kidney Foundation developed criteria, as part of its Kidney Disease Outcomes Quality Initiative (NKF KDOQ), stratify CKD patients

Stage 1: normal eGFR $\geqslant$ 90 mL/min per 1.73 m2 and persistent albuminuriaStage 2: eGFR between 60 to 89 mL/min per 1.73 m2
Stage 3: eGFR between 30 to 59 mL/min per 1.73 m2
Stage 4: eGFR between 15 to 29 mL/min per 1.73 m2
Stage 5: eGFR of < 15 mL/min per 1.73 m2 or end-stage renal disease

Chronic kidney disease refers to all the five stages of kidney damage from very mild range in stage 1 to complete kidney failure in stage five. The GFR is a blood test that measures how well the kidneys filter waste from the blood.

Stage:1

CKD there is mild kidney damage and usually no symptoms and most of the time eGFR rate greater than 90 means the kidneys are healthy and working well. There are usually no symptoms to indicate the kidneys are damaged.

Stage 2:

Kidney disease there is mild kidney disease and usually no symptoms. Most of the time eGFR between 60 and 89 means kidneys are healthy and working well. Signs of kidney disease could be protein in your urine or physical damage to the kidneys.

Stage 3:

Kidney disease eGFR between 30-45 means the kidneys are moderately damaged and are not working as well as they should. Many people with stage 3 kidney disease do not have any symptoms but if there are symptoms commonly are swelling in the hands and feet, Back pain, urinating more or less than normal.

Stage 4:

Kidney disease eGFR between 15-30 means the kidneys are severely damaged and this stage should be taken more seriously. common symptoms are high blood pressure, anaemia, and bone disease.

Stage 5:

Kidney disease eGFR less than 15 means the kidneys are getting very close to failure or have completely failed. Stage 5 kidney stage diseases have severe symptoms because the kidneys have usually stopped working. Dialysis and kidney transplant is the only option to treat stage 5 kidney Disease.

Symptoms of chronic kidney failure include:

- Itching
- Muscle cramps
- Nausea and vomiting
- Not feeling hungry
- Swelling in your feet and ankles
- Too much urine output or deficient in urine output
- Trouble catching breathe
- Trouble sleeping

Symptoms of Acute kidney failure include:

- Abdominal pain
- Back pain
- Diarrhoea
- Fever
- Nosebleeds
- Rash
- Vomiting
- Decreased mental sharpness
- Chest pain if fluid builds up around the lining of the heart

Causes of Kidney failure

- High blood pressure
- Glomerulonephritis an inflammation of the kidneys filtering units(glomeruli).
- Intestinal nephritis an inflammation of the kidneys tubules and surrounding structures
- Type 1 or type 2 diabetes
- Polycystic kidney disease
- Prolonged obstruction of the urinary tract from conditions such, kidney stones and some cancers, enlarged prostate.
- Vesicoureteral reflux a condition that causes urine to back up into your kidneys.
- Recurrent kidney infection also called as pyelonephritis.

Risk factors

- Diabetes

- High blood pressure
- Heart and blood vessel
- Smoking
- Obesity
- Family history of kidney disease
- Abnormal kidney structure
- Older age

End Stage Renal Disease (ESRD) is characterized by progressive and irreversible loss of renal functions, resulting in severe metabolic disorders Hemodialysis is the most common renal replacement therapy in the world, where 90% of the patients with ESRD undergo dialysis. Despite its benefits to patients, HD involves several complications related to the elimination of uremic solutes, water and electrolytes, to the patient's response and to dialysis. These complications increase the morbidity and mortality of renal patients on hemodialysis The main complications are muscle cramp, pruritus and headache. Also, complications with lower prevalence include abdominal pain, hypotension, hypertension, vomiting, short-term weight gain and constipation . Since the literature shows different prevalence rates of the main complications, the incidence of these complications must be accurately measured, taking into consideration the context of the patients. Thus, further studies should be developed to identify the prevalence of these complications, as well as to relate them to socio-demographic and clinical factors.

Moreover, it is necessary to relate the complications to the socio-demographic and clinical characteristics of the patients, which implies a greater participation of the health professionals, especially nurses, in this process. Based on these elements, the nursing staff will consider the patient's social aspects in the planning of care and preventive measures. Some authors stress the importance of such approach, as it allows the allocation of health care services to the most vulnerable clients, contributing to a better quality of life and lower hospital costs. Therefore, the following questions were posed:

What are the complications faced by patients with chronic renal failure undergoing haemodialysis? Are these complications influenced by socio-demographic and clinical factors? Based on these questions, the present study aims to identify complications patients with chronic renal failure undergoing haemodialysis and correlate them with socio-demographic and clinical factors.
Complications

CHRONIC KIDNEY DISEASE-ASSOCIATED ANAEMIA

Anaemia is defined as a reduction in one or more of the major red blood cell measurements; haemoglobin concentration, haematocrit, or red blood cell count. The World Health Organization defines anaemia as a haemoglobin level less than 13 g/dl in men and post-menopausal women, and less than 12 g/dl in pre-menopausal women. The NKF defines anaemia as a haemoglobin of less than 13.5 g/dl in men and less than 12.0 g/dl in women.

A normochromic, normocytic anemia usually accompanies progressive CKD, and the overall prevalence of CKD-associated anaemia is approximately 50%. Although anaemia may be diagnosed in patients at any stage of CKD, there is a strong correlation between the prevalence of anaemia and the severity of CKD. One quarter of stage 1 CKD patients, half of those stratified to CKD stages 2, 3, and 4 and three quarters of CKD patients starting dialysis suffer from anaemia. Therefore, primary care providers play an important role in diagnosing and managing anaemia in CKD patients.

While anaemia in CKD can result from multiple mechanisms (iron, folate, or vitamin B12 deficiency; gastrointestinal bleeding; severe hyperparathyroidism, systemic inflammation, and shortened red blood cell survival), decreased erythropoietin synthesis is the most important and specific etiology causing CKD-associated anaemia. Erythropoietin is a glycoprotein secreted by the kidney interstitial fibroblasts and is essential for the growth and differentiation of red blood cells in the bone marrow. In CKD, tubular atrophy generates tubulointerstitial fibrosis, which compromises renal erythropoietin synthetic capacity and results in anaemia.

The anaemia of CKD increases morbidity and mortality from cardiovascular complications (angina, left ventricular hypertrophy (LVH) and worsening heart failure), which may lead to further deterioration of renal function and the establishment of a vicious cycle termed the "cardio renal anaemia syndrome". The presence LVH is associated with decreased survival of patients on dialysis. In fact, end stage renal disease patients with LVH have a 30% lower five-year survival rate than individuals lacking LVH. In addition, anaemia is an independent predictor of death in stable coronary artery disease patients with CKD.

CHRONIC KIDNEY DISEASE-ASSOCIATED MINERAL AND BONE DISORDERS

The term "CKD-associated mineral and bone disorders" comprises abnormalities in bone and mineral metabolism. Renal osteodystrophy is the spectrum of histological changes, which occur in bone architecture of patients with CKD. Parathyroid hormone has a phosphaturic effect. Rising phosphorus levels are almost universally observed in stage 3 CKD patients. Four types of bone phenotypes (renal osteodystrophy) can be diagnosed in CKD patients: osteitis fibrosa cystica (high bone turnover with secondary hyperparathyroidism), osteomalacia (low bone turnover and inadequate mineralization, primarily related to diminished vitamin D synthesis), adynamic bone disorder (low bone turnover from excessive suppression of the parathyroid glands), and mixed osteodystrophy (with elements of both high and low bone turnover).

The predominant type of renal osteodystrophy and CKD-mineral and bone disorder differs between pre-dialysis and end stage renal disease patients. The cause of this prevalent bone phenotype results from oversuppression of parathyroid hormone and high calcium dialysate concentrations. The principle goal of the treatment of CKD-associated bone and mineral disorders is phosphorous level reduction. Initial treatment restricts dietary phosphorus intake when phosphate or parathyroid hormone levels begin to rise
CARDIOVASCULAR RISK

Hypertension is a traditional cardiovascular risk factor which contributes to the cardiovascular risk associated with CKD. Study demonstrated that patients with hypertension are at increased risk for new or recurrent cardiovascular events in individuals with stage 2–3 CKD. However, a U-shaped relationship exist between systolic blood pressure and mortality in which high or low systolic blood pressures appear to be associated with increased mortality rates in stage 5 CKD patients. Low systolic pressures may identify a sicker group of patients rather than being an etiology for excess mortality. Detailed treatment recommendations are beyond the scope of this review. Given the renal protective effects of angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers, this class of agents are optimal first-line agents in patients with proteinuric (> 1 gm/24h), progressive diabetic and nondiabetic renal disease.

Diabetes is associated with adverse outcomes in all stages of CKD. The presence of left ventricular hypertrophy (LVH), a complication which increases in relation to progressively lower levels of eGFR, is also a cardiovascular risk determinant in CKD patients. Anaemia and hypertension, are two CKD associated complications hypothesized to play a role in the development of LVH . In a prospective cohort of 2,423 patients with stage 3–4 CKD, investigators noted an independent risk of LVH for the composite endpoint of myocardial infarction and fatal coronary heart disease.

Several cardiovascular risk factors associated with CKD are unique to patients with this disease (non-traditional risk factors). Anaemia, which has been discussed above, is a risk factor for adverse cardiovascular outcomes in CKD patients. Abnormal serum phosphate levels, calcium-phosphate ion product, and parathyroid hormone levels are independent cardiovascular risk factors in the setting of stage 5 CKD.

Higher calcium–phosphate products and the cumulative dose of oral calcium-based phosphate binders correlate with the extent and progression of arterial calcification in dialysis and stage 3 or 4 CKD patients Interestingly, serum phosphate levels were associated with increased rates of death and myocardial infarction in patients with stage 3 or 4 CKD. Inflammation is a non-traditional risk factor believed to play a role in mediating cardiovascular risk in CKD. Markers of inflammation are often elevated in CKD patients and are predictive of cardiovascular risk in this population. Some, but not all studies, have found serum C-reative protein (CRP) levels predicts cardiovascular outcomes in CKD patients. Menon et al. analyzed samples obtained from Modification of Diet in Renal Disease study patients (all had stage 3, 4 or 5 CKD at enrollment), measuring CRP concentration and analyzing its relationship to long-term outcomes.

With a 10 year median follow-up period, all-cause mortality was 20% and cardiovascular mortality was 10%. High CRP was an independent predictor of all cause and cardiovascular mortality after investigators adjusted for confounding variables. The authors concluded that elevated CRP is useful for predicting outcomes in CKD patients.

Proteinuria, a hallmark of renal impairment, is associated with an increased risk for cardiovascular disease and early cardiovascular mortality in patients with and without diabetes and hypertension. This association was first demonstrated by the Framingham Heart Study investigators. More recently, Gerstein et al. CKD patients are more likely to develop congestive heart failure (CHF).

Progression of CKD is associated with a number of serious health complications, including increased incidence of cardiovascular disease.Treating both traditional and non-traditional cardiovascular risk factors in individuals with CKD involves a multidisciplinary approach to care. Chronic kidney disease may affect almost every part of the body potent complications include:

- Fluid retention which could lead to swelling in your arms and legs, high blood pressure or fluid in your lungs (pulmonary edema)
- A sudden rise in potassium levels in your blood (hyperkalemia) which could impair your heart ability to function and may be life threatening
- Heart and blood vessel(cardiovascular disease)
- Weak bones and a increased risk of bone fractures
- Anaemia
- Decreased sex drive, erectile dysfunction or reduced fertility
- Damage to your central nervous system which can cause difficulty in concentrating personality changes or seizures.
- Decreased immune response which makes you more vulnerable to infection.
- Pregnancy complications that carry risks for the mother and the developing foetus.
- Irreversible damage to your kidneys eventually requiring either dialysis or a kidney transplant for survival.

HEMODIALYSIS

Hemodialysis is the process of purifying blood of a person whose kidneys are not working normally. There are two types of dialysis one is Haemodialysis and Peritoneal dialysis. You need dialysis if your kidney function only 10-15 percent of your kidney function left. high level of wastes accumulate in your blood that is toxic to your body.

Haemodialysis, also spelled haemodialysis, or simply dialysis, is a process of purifying the blood of a person whose kidneys are not working normally. Haemodialysis is one of three renal replacement therapies (the other two being kidney transplant and peritoneal dialysis). Haemodialysis is the choice of renal replacement therapy for patients who need dialysis acutely, and for many patients as maintenance therapy. It provides excellent, rapid clearance of solutes. The principle of haemodialysis is the same as other methods of dialysis; it involves diffusion of solutes across a semi permeable membrane.

Types

There are three types of haemodialysis: conventional haemodialysis, daily haemodialysis, and nocturnal haemodialysis.

Conventional hemodialysis

conventional hemodialysis is done usually done three times per week for about three to four hours for each treatment.

Daily haemodialysis

Daily haemodialysis is typically used by those patients who do their own dialysis at home. It is less stressful (more gentle) but does require more frequent access. Daily haemodialysis is usually done for 2 hours six days a week.

Nocturnal haemodialysis

The procedure of nocturnal haemodialysis is similar to conventional haemodialysis except it is performed three to six nights a week and between six and ten hours per session while the patient sleeps.

Procedure

During haemodialysis, your blood goes through a filter, called a dialyzer, outside your body. A dialyzer is sometimes called an "artificial kidney. At the start of a haemodialysis treatment, a dialysis nurse or technician places two needles into your arm. You may prefer to put in your own needles after you're trained by your health care team. A numbing cream or spray can be used if placing the needles bothers you. Blood enters at one end of the filter and is forced into many, very thin, hollow fibres. As your blood passes through the hollow fibres, dialysis solution blood move into the dialysis solution. Filtered blood remains in the hollow opposite returns to your body.

Haemodialysis treatments usually last three to five hours and are performed three times per week. However, haemodialysis treatment can also be completed in shorter, more frequent sessions. Most haemodialysis treatments are performed at a hospital, doctor's office, or dialysis centre. The length of treatment depends on your body size, the amount of waste in your body, and the current state of your health. After you've been on haemodialysis for an extended period of time, your doctor may feel that you're ready to give yourself dialysis treatments at home. This option is more common for people who need long-term treatment.

Peritoneal dialysis

Peritoneal dialysis is a way to remove waste products from your blood when your kidneys cannot work any longer.This procedure filters the blood in a different way than does the more common blood filtering procedure is called hemodialysis.

During peritoneal dialysis a cleansing fluid flows through a tube(catheter) into part of your abdomen.The lining of your abdomen acts as a filter and removes waste products from your blood.After a set period of time the fluid with the waste products gets discarded. There are two types of Peritoneal Dialysis are Continuous ambulatory peritoneal dialysis and Continuous cycling peritoneal dialysis.

METHODOLOGY

STUDY SITE:

The study on "Assessment of complications in patients with CKD undergoing Haemodialysis1' was carried out in MAHAVEER DIALYSIS CENTRE located in Hyderabad. This hospital is unique and well known for its services to the people of Telangana and Andhra pradesh.

DEPARTMENT SELECTED:

- The department selected for this study was Nephrology.

PERIOD OF DATA COLLECTION:

- September 2018 to February 2019.

TYPE OF THE STUDY:

- Prospective observational study.

STUDY POPULATION:

- 200 Patients.

PHASE 1:

CONSENT FROM HOSPITAL AUTHORITY:

It was a custom that every project work carried out in the hospital by the PharmD has to be approved by the Head of the hospital and should be informed to all the physicians, surgeons and other Health Care Professionals of hospital. So a protocol of the study which includes the objectives, methodology etc., was submitted to the head of the hospital.

The study was conducted with the expert guidance of senior and junior nephrologists of the department for the study in the hospital. The author was permitted to utilize the hospital facilities to make a follow up prescription, in the nephrology department. All the health care professionals were will informed through Dean's official circular.

DATA ENTRY FORM:

A separate data entry form is designed. The format contains the details such as name, age, gender, height , weight, IP/OP number, date of admission, reason for admission, patient past medical history and medication history, vital signs, laboratory tests and drug chart.

PHASE 2:

DATA COLLECTION:

Inclusion criteria:

Patients: Department of Nephrology

- 30-80 years of patients who are undergoing treatment for CKD undergoing haemodialysis regularly.
- Patients with end stage renal disease.
- Subjectives are willing and able to comply with all protocol requirements.

Exclusion criteria:

- Patients with HIV disorders are excluded.
- Patients with acute renal failure.
- Patients preparing for kidney transplantation.
- Patients who voluntary withdrawn from the analysis.

WARD ROUND PARTICIPATION:

A regular ward round in both inpatient and outpatient was carried out. The medical charts of the patient were screened for appropriateness in all possible ways. Patient demographic like age, weight, comorbidities, social status, educational status, frequency and duration of dialysis were entered into the specially designed data entry form. The data regarding complications was collected by asking patients CKD questionnaires.

PHASE 3:

DATA COLLECTION CONTINUED

- The data collection was continued in this phase also

DATA ANALYSIS

The obtained data were analyzed for the complications based on the socio demographic and clinical aspects of the Haemodialysis. The CKD questionnaires were analyzed by observing and comparing the values to measure the complications in selected population.

RESULTS

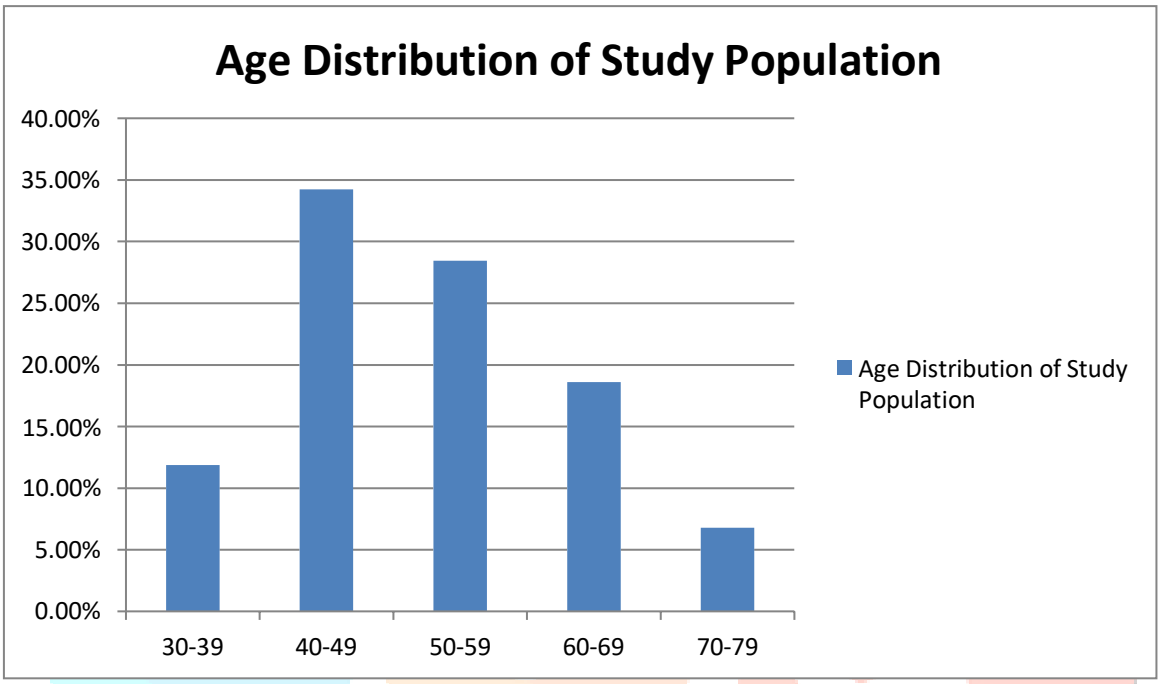
1. AGE DISTRIBUTION

Age distribution for the study population was done and categorized accordingly.
The records of 250 haemodialysis patients were evaluated prospectively. Totally, 200 patients were included into the study and among them 64.2% were old adult, 18.4% were old and 28.8% were young adult. The details are also given in the following Table no: 1 and Graph No.1

Age Group % (n)	Overall Population (n=200)
30-39	11.88% (24)
40-49	34.23% (68)

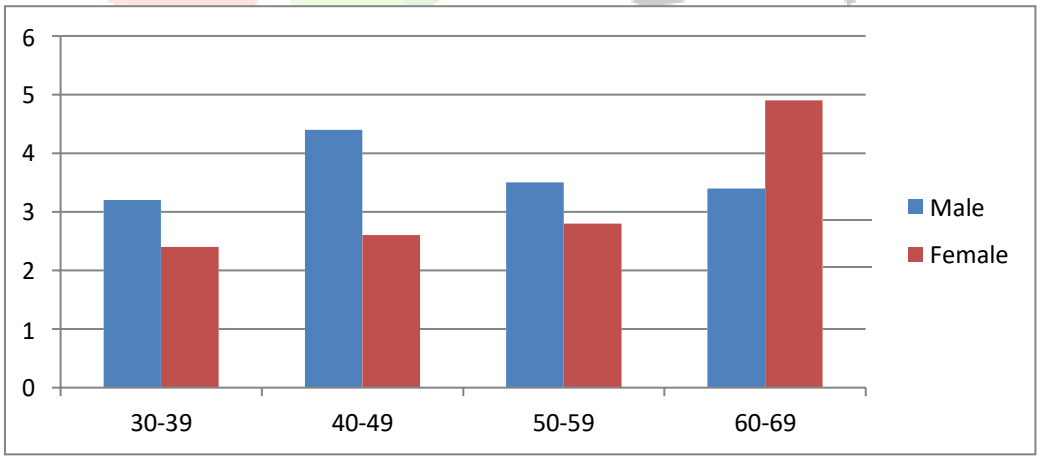
50-59	28.46% (57)
60-69	18.62% (37)
70-79	6.81% (14)

Table no-1: Age Distribution of Study Population



2.GENDER:

Gender distribution at dialysis induction among patient with chronic renal failure was studied. In chronic glomerular nephritis males were most numerous in the 30-39 old groups, followed by 40-49 old groups. They decreased with age. Females showed the same frequencies among the 30-39, 40-49, 50-59, 60-69, 70-79 year old groups. However, 50-59 had the most cases. Among cases of diabetic nephropathy males were more numerous in the 50-59 old year group and females in the 60-69 old group. Progression of the renal failure to be more rapid in males than females. The details are given in the following Graph No-2



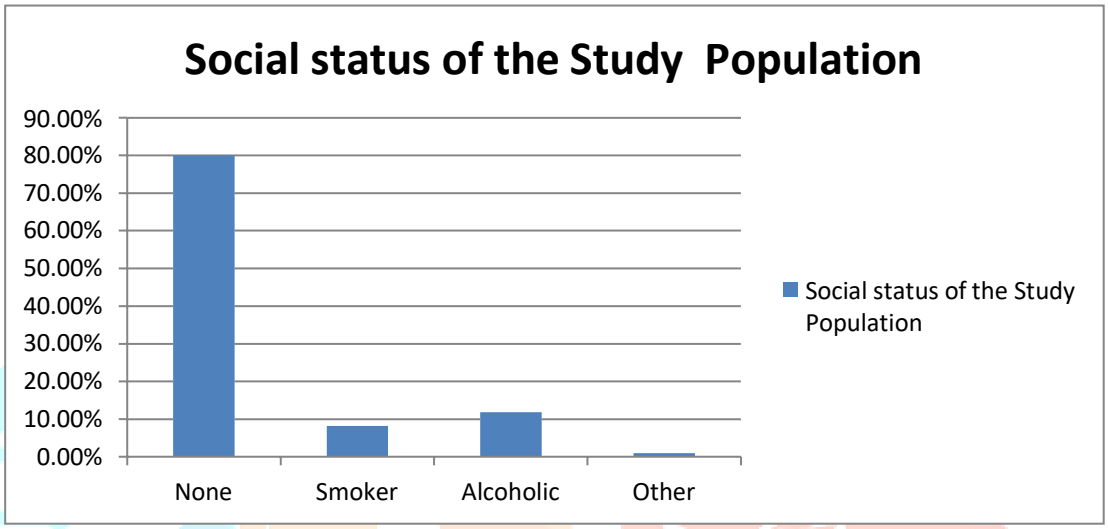
Graph no-2: Gender Distribution of Study Population

3. SOCIAL STATUS

We have add an attempt to understand the social status of the study population and under the prospective study it has revealed that 21.18% () patients are consuming alcohol alone whereas as 5.88%() Patients are consuming smoking alone. As in the study population 85.01%() of patients having clean habits. All this results does not explicit the social habits and the influence of the disease status. The details are given in the following Table no-2 and Graph no-3.

Social History	Overall population
None	85.01%
Smoker Alone	21.18%
Alcoholic alone	5.88%
Others	0.98%

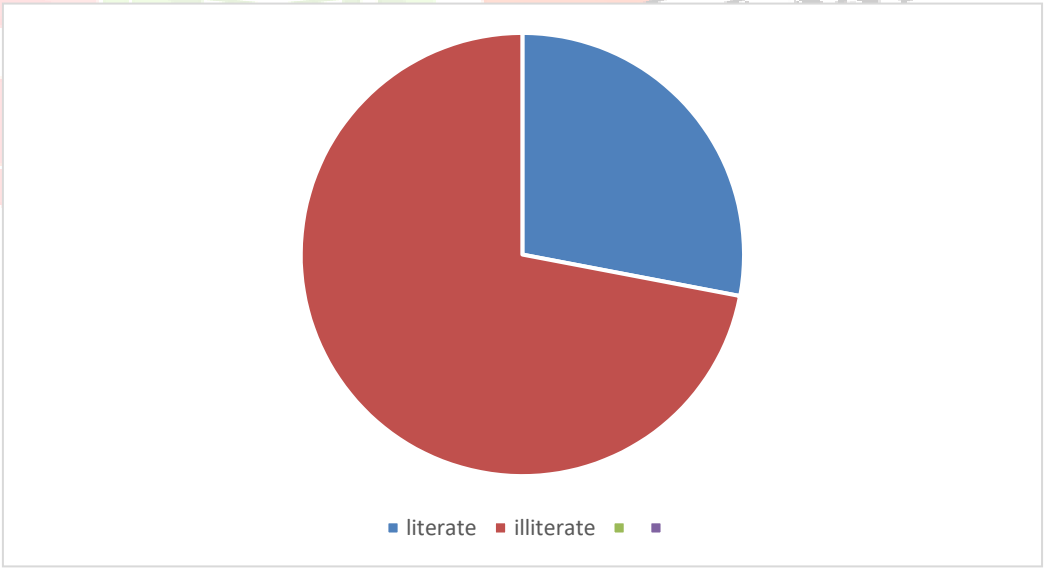
Table No-2: Social status of study population



Graph no- 3: Social status of study population

4. EDUCATIONAL STATUS

The educational status of the study population was categorised as literate and illiterate. The category of people in the study include 28% literate which means only those people who can speak, read and write whereas 72% are illiterate which means those people cannot speak, read and write. The educational status of the study population was depicted in the following Graph no-4



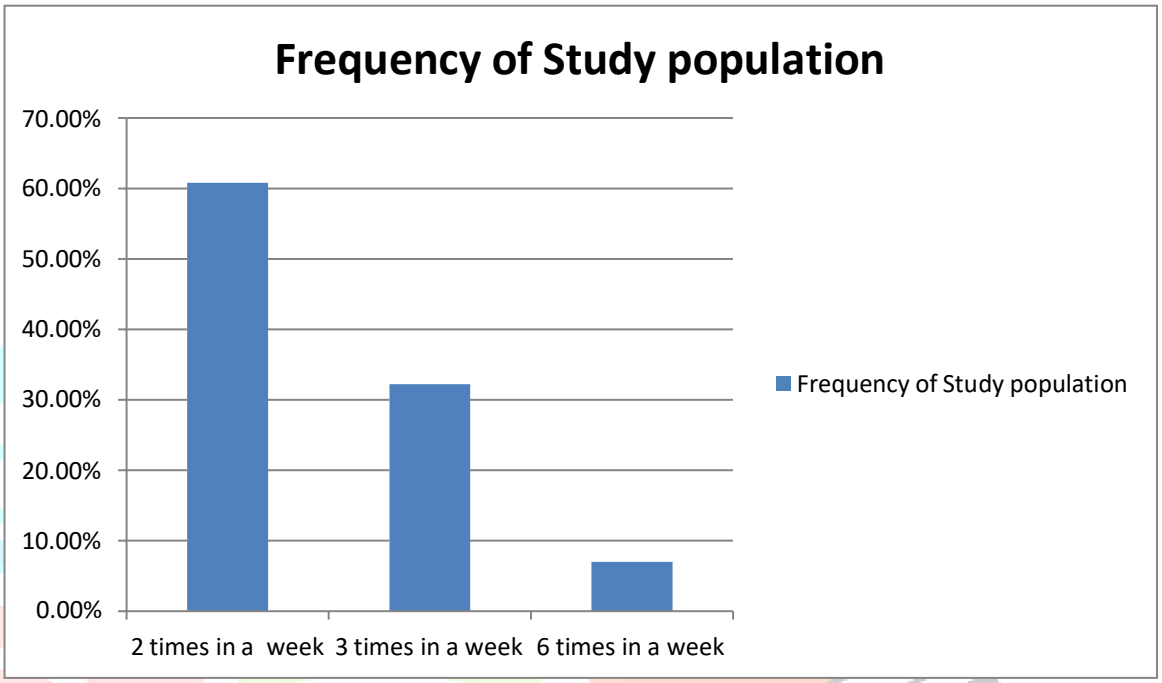
Graph no-4: Educational status of study population

5. FREQUENCY OF DIALYSIS

A total of 200 patients (120 men, 80 women) were receiving chronic Haemoldialysis, when the study began. 73.80% of these patients, dialysis was performed three times per week. 22.20% of these patients dialysis was performed two times in a week and 4% of these patients dialysis was performed six times per week. The details of frequency of dialysis were given in the following Table no-3 and Graph no-5

Frequency of Dialysis	Study Population (n)
Two times in a week	60.80% (121)
Three times in a week	32.20% (65)
Six times in a week	7.00% (14)

Table No-3: Frequency of Dialysis in study population



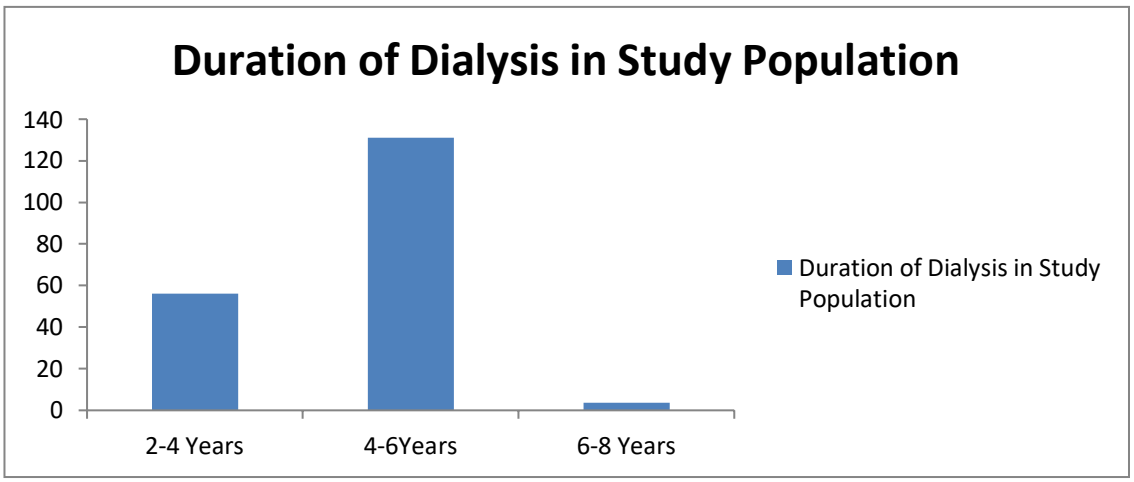
Graph no-5: Frequency of Dialysis in study population.

6. DURATION OF DIALYSIS

The duration of dialysis in the total study population ranging from 2-8 years. The duration was calculated from the date of the start of dialysis, the baseline demographics and the clinical characteristics are summarised according to the duration of dialysis. The details of the duration of dialysis in years and its distribution for the study population given in the following Table no- 4 and Graph no-6

Duration of Dialysis (years)	Study Population (n)
2-4	28% (56)
4-6	65% (131

Table no-4: Duration of Dialysis in study population



Graph no-6: **Duration of Dialysis in study population**

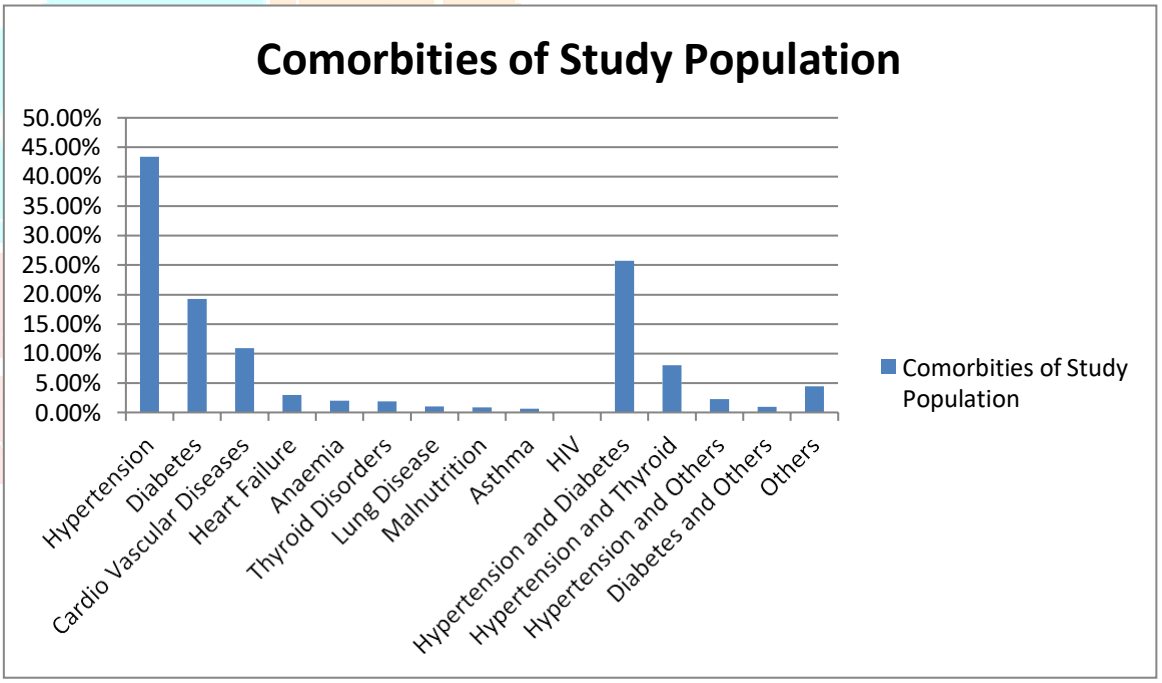
7. COMORBIDITIES

The study population was screened for the presence of various comorbidities. Overall 71.52% (142) patients have Hypertension, 53.33 (106) patients are suffering from Diabetes and 23%(46) patients are suffering from cardiovascular diseases. The details of the comorbidities are given in the following **Table no-5** and **Graph no-7**

Co-Morbidities	Overall Study Population
Hypertension	43.41 % (86)
Diabetes	19.25% (38)
Cardio Vascular Diseases	10.89% (20)
Heart Failure	2.98% (5)
Anaemia	1.99% (3)
Thyroid Disorders	1.89% (4)
Lung Disease	0.99% (2)
Malnutrition	0.87% (2)
Asthma	0.65% (1)

HIV	-
Hypertension and Diabetes	25.74% (50)
Hypertension and Thyroid	8.00% (16)
Hypertension and Others	2.25 % (5)
Diabetes and Others	0.98% (1)
Others	4.44% (8)

Table no-5: Comorbidities of study population



Graph no-7: Comorbidities of study population.

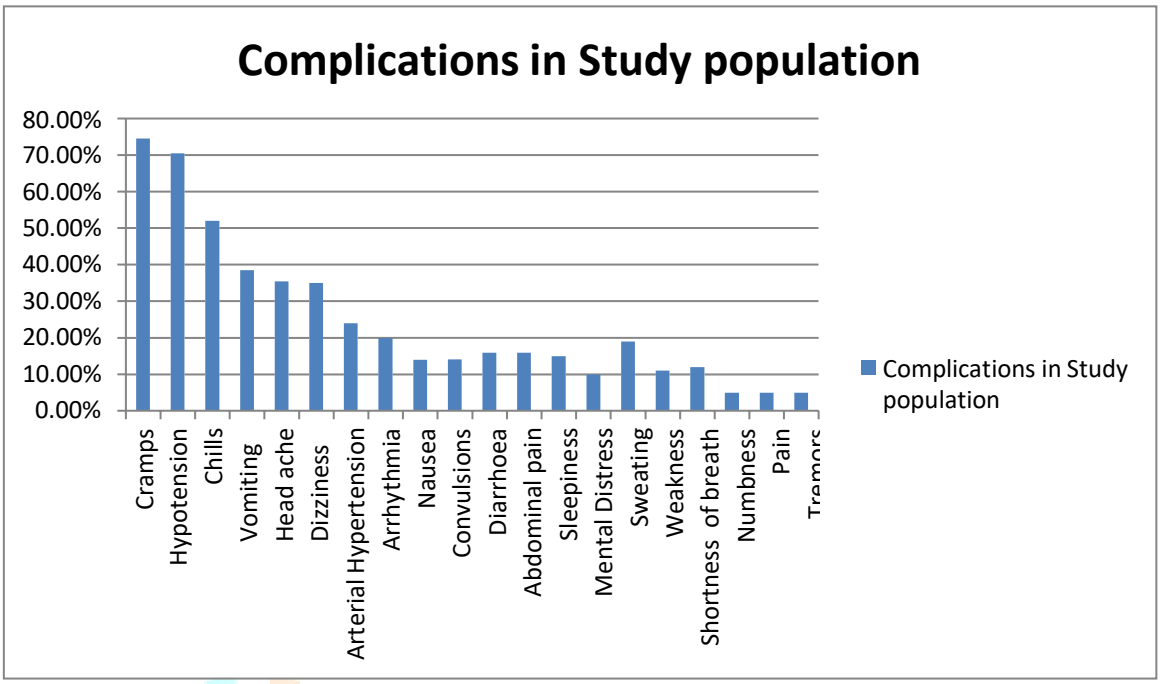
Duration of Dialysis (years)	Study Population (n)
2-4	28% (56)
4-6	65% (131

8. COMPLICATIONS

The common complications of Chronic kidney disease include Anaemia, Bone Disease, cramps 74.05% (149), Gout, Heart Disease, Hyperkalemia , Fluid build up, Hypotension70.5% (141), Chills 52% (101) , Vomiting 38.5%(77), Headache 35.5% (71), Dizziness 35%(70), Hypertension 24% (48)and Arrhythmia 20%(40). Complications such as Nausea, convulsions, Diarrhoea and abdominal pain were frequent in two patients (1% of the sample). Sleepiness, mental distress, Sweating, Weakness, Shortness of breath, Numbness, Body aches and tremors accounted for 0.5% of complications. The details of complications of the patients with chronic renal failure during Haemodialysis were given in the following Table no-6 and Graph no-8.

Complications	Overall Study Population
Cramps	74.5%
Hypotension	70.5%
Chills	52%
Vomiting	38.5%
Head ache	35.5%
Dizziness	35%
Arterial Hypertension	24%
Arrhythmia	20%
Nausea	14%
Convulsions	14.1%
Diarrhoea	15.9%
Abdominal pain	15.9%
Sleepiness	15.0%
Mental Distress	10.0%
Sweating	19.0%
Weakness	11%
Shortness of breath	12%
Numbness	5%
Pain	5%
Tremors	5%

Table No -6: Complications in study populations



Graph no-8 Complications in study populations

DISCUSSION

Complications related to the Chronic kidney failure and Heamodialysis are the important factors to be monitored and prevented, they can lead to serious consequences and reduce the quality of life of patients with CKD.

Hypotension was the study sequence in the study population. This is a compensatory cardiovascular response during the analysis that occurs when ultra filtration rate exceed the refilling rate. This complication was associated with inter-dialytic weight gain in renal patints.

Hypotension is one of the main acute complication during Haemodialysis. patients with an average age of 47 yrs and undergoing Haemodialysis. As for weight gain patients with excess fluid are more prone to lower blood pressure due to greater removal of fluid and electrolytes Chills are generally associated with vascular access infection related to pyrogenic reactions, disinfections of the Haemodialysis machines and water treatment. Chills are associated with muscular skeleton changes in patients submitted to Haemodialysis especially in women.

Vomiting had a statistically significant association with gender dialysis site. Episodes of vomiting during Haemodialysis have multiple causes such as increased dialysate sodium and calcium concentrations. Vomiting was more severe in women. Headache was also cited as a complication observed during dialysis. It can be caused by stress faced by patients. Dizziness is related to episodes of hypotension caused by fluid intake restrictions during the procedure.

Arrhythmia was another complication in patients, and showed association with age. Heart problems are common in patients in dialysis due to significant changes in electrolyte levels related to the cardiac activity. Diarrhoea in patients is seen with the length of the time over which the patient has been undergoing Haemodialysis. This complication will reflect the worsening of nutritional status, impairing the absorption of food. One limitation of this study was the fact that complications were identified only in patients undergoing Haemodialysis.

CONCLUSION

The main objective of our study is to Assess the Complications in patients with Chronic Kidney Failure undergoing Haemodialysis. According to the questionnaires modules, it is concluded that complications experienced by the renal patients undergoing Haemodialysis influenced by the socio demographic and clinical aspects of the patients. The observational studies identified were hypotension with age, gender, chills, vomiting, head ache, dizziness, weight gain, arrhythmia, diarrhoea and length of the dialysis treatment, abdominal pain and inter dialytic weight gain.

The results of the present study contribute to the planning and execution of care to the patient on dialysis based on social and clinical aspects experienced. The understanding of these aspects contributes to health actions able to overcome complications during the Haemodialysis procedure.

REFERENCES

1. National Kidney Foundation (KDIGO). Kidney disease improving global outcomes. Am. J. Kidney Dis. [Internet] 2013;3(1) [acesso em 14 jan 2017]. Disponível:.

2. Sesso RCC, Lopes AA, Thomé FS, Lugon JR, Watanabe Y, dos Santos DR. Diálise Crônica no Brasil: Relatório do Censo Brasileiro de Diálise, 2011. J Bras Nefrol. [Internet] 2012;34(3) [acesso em 14 jan 2017]. Disponível: http:// dx.doi.org/10.5935/0101- 2800.20120009

3. Coitinho D, Benetti ERR, Ubessi LD, Barbosa DA, Kirchner RM, Guido LA, et al. Intercorrências em hemodiálise e avaliação dasaúde de pacientes renais crônicos. Av Enferm. [Internet] 2015;33(3) [acesso em 21 mar 2017]. Disponível

4. Frazão CMFQ, Sá JDS, Paiva MGMN, Lira ALBC, Lopes MVO, Enders BC. Int J Nurs Knowl. [Internet] 2015;26(3) [acesso em4 dez 2016]. Disponível:

5. Kraus MA, Fluck JF, Weinhandl ED, Kansal S, Copland M, Komenda P, et al. A.Intensive hemodialysis and health-related qualityof life. Am J Kidney Dis. [Internet] 2016;68(5) [acesso em 15 fev 2016]. Disponível: http:// dx.doi.org/10.1053/j.ajkd.2016.05.023.

6. Prabhakar SRG, Singh S, Rathore SS, Choudhary TA. Saudi J Kidney Dis Transpl. [Internet] 2015;26(1) [acesso em 9 dez 2016].Disponível: http://www.sjkdt.org/article.asp?issn=1319-2442;year=2015;volume=26;issue =1;spage=168;epage=172;aulast=Prabhakar%2C.

7. Shepshelovich D, Yelin D, Bach LO, Halevy N, Ziv Y, Green H, et al. Chills during hemodialysis: prediction and prevalence ofbacterial infections – a retrospective cohort study. Am J Med. [Internet] 2017;130(4) [acesso em 10 mar 2017]. Disponível:

8. de Oliveira APC, de Sousa AS, de Mendonça AEO, da Silva RAR. Intradialytic complications in patients with chronic renal failure submitted to hemodialysis: integrative review. Rev enferm UFPE online. [Internet] 2013;7(11) [acesso em 14 jan 2016]. Disponível:http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/ viewArticle/2547.

9. National Kidney Foundation (KDOQI). Clinical practice guideline for hemodialysis adequacy: 2015 update. Am J Kidney Dis.[Internet] 2015;66(5) [acesso em 06 set 2017]. Disponível:

10. Leung KCW, Quinn RR, Ravani P, MacRae JM. Ultrafiltration biofeedback guided by blood volume monitoring to reduce intradialytic hypotensive episodes in hemodialysis: study protocol for a randomized controlled trial. Trials. [Internet] 2014;(15) [acesso em 14 dez 2016]. Disponível: http://dx.doi.org /10.1186/1745-6215-15-483.

11. Almeida KCS, de Sousa MNA, de Oliveira T, Bezerra ALD, Nunes RMV, de Medeiros RC. Atitude religiosa de pessoas comdoença renal crônica em tratamento hemodialítico. Rev Enferm UFPI. [Internet] 2016;5(2) [acesso em 06 set 2017]. Disponível:

12. Poulikakos D, Banerjee D, Malik M. Major arrhythmic events and T wave morphology descriptors in hemodialyzed patients. J.Eletrocardiol. [Internet] 2014;47(2) [acesso em 17 dez 2016]. Disponível: https://doi. org/10.1016/j.jelectrocard.2013.11.010.