ISSN- O: 2458 - 868X, ISSN–P: 2458 – 8687
National Library of Medicine - ID: 101731606

International Journal of Medical Science and Innovative Research (IJMSIR)
IJMSIR : A Medical Publication Hub
Available Online at: www.ijmsir.com
Volume – 6, Issue – 2, March – 2021 , Page No. : 176 - 197

A descriptive study to explore the socio-demographic and health profile of the patients undergoing haemodialysis in selected hospital, Bangalore.

[1]Smriti Shukla, M.Sc. Nursing, Medical Surgical Nursing Department, Ramaiah Institute of Nursing Education and Research, Bangalore, Karnataka, India.

[2]Yogeendra Prabhu, Associate Professor, Medical Surgical Nursing Department, Ramaiah Institute of Nursing Education and Research, Bangalore, Karnataka, India.

Corresponding Author: Smriti Shukla, M.Sc. Nursing, Medical Surgical Nursing Department, Ramaiah Institute of Nursing Education and Research, Bangalore, Karnataka, India.

Citation this Article: Smriti Shukla, Yogeendra Prabhu, "A descriptive study to explore the socio-demographic and health profile of the patients undergoing haemodialysis in selected hospital, Bangalore", IJMSIR- March - 2021, Vol – 6, Issue - 2, P. No. 176– 197.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Background: Chronic Kidney Disease is a worldwide public health problem; the population of India exceeds one billion and is projected to become the major reservoir of Chronic Diseases like diabetes and hypertension which leads to rise in End Stage Renal Disease burden, where Renal Replacement Therapy is the only option at this stage. Haemodialysis is the most frequently used renal replacement therapy. Dialysis therapy ameliorates many of clinical manifestations of Chronic Kidney disease and postpones imminent death. However, the haemodialysis patients have higher percentile of morbidity and mortality, multiple hospitalizations, unique treatment complications and socio-demographic factors affecting their life than the general population. One of the vital aspects of haemodialysis therapy is to deal with comorbidities and ailments existing in patients. The aim of the study is to explore the socio-demographic and health profile of the patients undergoing haemodialysis.

Materials and methods: The Non experimental, exploratory descriptive research design was adopted for this study. Non probability convenient sampling technique was used to obtain 260 samples at Tertiary Care Hospital, Bengaluru, Karnataka. Data was collected by interview method to gather information regarding Socio-Demographic and Health profile of the subjects undergoing haemodialysis. The collected data was analysed by using descriptive statistics.

Result: Mean age at which the subjects were diagnosed with Chronic Kidney Disease was 43.3, majority (70%) of the subjects were males and (30%) were females showing male predominance over female in undergoing haemodialysis treatment. (24.2%) of the subjects were retired, (16.5%) were working for part time and (10.8%) were unemployed. (47%) of the subjects felt interference in work area. (31.5%) of the subjects travels >15 km distance to reach dialysis center and (24.6%) of the subjects were spending Rs.3, 000 – 5,999 per month on transportation. Hypertension and

Diabetes (25%) were main causes of the subject's kidney disease followed by over use of non-prescription pain killers (9.7%). (43.1%) of the subjects have been on haemodialysis between 1–5 years, (53.5%) received haemodialysis treatment 3 days/week and (80.8%) were undergoing 4 hours of haemodialysis treatment during each visit. (18.1%) of the subjects had planned for kidney transplantation and (15%) of the subjects underwent transplantation. Most (87.2%) of the donors were females. (55.8%) of the subject's monthly expenses for treatment and medication was between range of Rs 15,000 – 22,999.

Conclusion: Nurses working in community health setup are the first level contact persons for the individual, family and community. Hence, they must equip themselves with the competency required for assessment and identification of chronic kidney disease at an early stage. Patients who are known case of diabetes mellitus and/or hypertension should be encouraged to undergo screening investigations for chronic kidney disease.

Keywords: Haemodialysis, Chronic Kidney Disease, Socio-Demographic profile and Health Profile.

Introduction

Chronic kidney disease (CKD) is a pathological condition, defined as structural or functional damage to the Kidney, diagnosed on the basis of the presence of proteinuria or a decrease in glomerulus filtration rate [GFR] <60ml/min/1.73m^2 for more than three months. [1] CKD is an important cause of morbidity and mortality worldwide. Although data are scarce for developing countries, it is estimated that by 2030, (70%) of patients with End Stage Renal Disease (ESRD – V stage of kidney disease) will be in developing countries, where such growing demand will surpass the budgetary capabilities of health care system. [2]

CKD is the 12th leading cause of death and 17th cause of disabilities and 3rd most common non-communicable disease in India. The projected number of deaths due to Chronic disease was around 5.21 million and is expected to rise to 7.63 million in 2020 (66.7% of all deaths).[3]

Ten per-cent of the population worldwide is affected by CKD and in India more than one million cases are reported per year [4] Most CKD patients reporting to tertiary care centres in India are in the final stage where renal replacement therapy (RRT) is the only option at this stage[5] It is estimated that only 10-20% of ESRD patients in India continue long term renal replacement therapy.[6] Technological advancement in the care of renal failure patients provides several renal replacement therapies such as haemodialysis, peritoneal dialysis, hemofiltration and renal transplantation. Haemodialysis (HD) is the most frequently used RRT. [7] It is life-saving procedure, removes blood from the body, circulates it through a purifying dialyzer and then returns the blood to the body. [8]

The advent of RRT has significantly reduced morbidity, resulting in longer survival of patients with CKD. [9] Two million people worldwide currently receive treatment with dialysis.[6] In developing countries, such as India, limited access to RRT, physical inaccessibility to health facilities, economic barriers with respect to transplantation, high prevalence of communicable diseases and lack of infrastructure possess high stress and challenges in effective management of CKD. [9]

Number of stress factors operates in patients on maintenance of haemodialysis. These includes: social-demographic factors, economic pressure, marital discord, sexual dysfunction, emotional stress, dependency on machine, limited activities, medical

complications and anxiety about loss or death are common regardless of the modalities.[10]

Patients undergoing haemodialysis experience wide variations in social and demographical characteristics. Research studies have revealed that socio demographic profile influence the treatment of patients undergoing haemodialysis which includes age, gender, employment, income, education level, marital status, number of children, dietary pattern, height, weight, BMI, residence, distance covered to reach hospital, mode of transport, money spend on transportation and treatment, duration of haemodialysis, number of days per week receiving haemodialysis, insurance, and financial support [11]

Patients with better income level have no financial stress in getting a dialysis than in patients with lower income as they have better living status, with good income support; they have more chance of availing opportunities for recreation and leisure activities which give them feeling of healthy life [11]

Similarly, age has inversely proportional relationship with physical and psychological health domain as with increasing age health goes on decreasing. Marital status also affects patient's health; the reason for this is that unmarried persons are dependent on their families as compared to married person who has to run the family. [11]

The patients who are literate have better understanding of disease and awareness regarding treatment. Employment is a better predictor of patient's standard of life undergoing haemodialysis as employed patients can perform their jobs, have better body image, appearance and self-esteem which help them to cope better.[11]

Patients traveling with private transports are having better health than public transports as; private transports provide freedom for movement, safety and less exposure to physical environment and less time consumption in case of emergency. Thus, socio-demographic characteristics have great impact on patient's health. [11]

Not only socio demographic but health profile is also an important aspect of patients undergoing haemodialysis. Patients with CKD undergoing haemodialysis experiences a range of health profile, which has affected the individual's health which includes diabetes, hypertension, cardio-vascular disorders, obesity, and anaemia. [12]

The population of India is projected to become the major reservoir of chronic diseases like Diabetes mellitus and Hypertension. The principal reported causes of CKD worldwide are Diabetes mellitus (30-40%) and Hypertension (25-30%) followed by glomerulonephritis and pyelonephritis, polycystic, hereditary, or congenital disorders, hepatic failure, failure of pancreas, renal cancers, anaemia, malnutrition, peripheral vascular disease, congestive heart failure, myocardial infraction, cerebrovascular disease, gout, hyperlipidaemia, family history of renal failure and renal cancer. [12]

Some of the vital aspects related to chronic kidney disease (CKD) patients undergoing haemodialysis are-age of diagnosis with CKD, duration of haemodialysis, number of haemodialysis per week, how long they have been on haemodialysis and presence of morbid or comorbid clinical factors.[11]

Renal diseases are associated with an increased mortality compared to age-matched controls. A high level of comorbidity at dialysis initiation is associated with an increased risk of death and can have a variable effect on quality of life measures and the alleviation of uremic signs and symptoms, such as anorexia, fatigue,

cognitive impairment, depressive symptoms, pruritus and sleep disturbances. Increasing age and co-existing conditions enhances the risk of health detoriation making them more vulnerable, even after hi-tech treatments and advancement. [13]

Though, several advances have been made in understanding haemodialysis treatment, there is a paucity of published Indian studies focussing on beneficial role of Social support to haemodialysis (HD) patients and in dealing with ailments related to CKD and HD. However, the beneficial role of social support to haemodialysis patients is slowly being acknowledged. There is considerable potential for enhancement of quality of life by minimizing the modifiable socio-demographic and health profile.

Materials & Methods

A. Study Design

Exploratory descriptive research design was used in this study.

B. Variables

Variables are attributes of a person that varies and it takes different values. Variables used in the study were Socio-demographic and Health profile of the patients undergoing haemodialysis.

C. Setting of the study

Setting is the physical location and the condition in which data collection takes place in a study. The study was carried out at haemodialysis unit of Tertiary care hospital, Bangalore, which is 1050 bedded multispecialty hospital equipped with latest infrastructure and modern technologies. The current dialysis unit is having 46 dialysis machines and a CRRT (Continuous renal replacement therapy) machine which caters to around 140 patients every day and provides 24/7 service. The nurse patient ratio of 1: 3 is maintained at the dialysis unit. On an average 300 patients receive dialysis treatment per day at Ramaiah Memorial Hospital. The criteria for selecting this setting were geographical proximity, feasibility of conducting the study, availability of the samples and familiarity of the investigators with the settings.

D. Sample size: 260 patients undergoing haemodialysis.

E. Sampling technique: Non probability convenient sampling technique was used to select the samples.

F. Inclusion and exclusion criteria:

Inclusion criteria: Patients undergoing haemodialysis who are

- Available during the period of data collection.
- Able to understand – Kannada or English

Exclusion criteria: Patients undergoing haemodialysis who are

- Not willing to participate in the study.
- Diagnosed with mental illness.

G. Development of tool

After an extensive review of literature, discussion with the experts and with the researcher's personal and professional experience Socio-Demographic and Health profile were developed. The profiles included information regarding socio-demographic and health variables (Systemic disease status and ailments related to haemodialysis and chronic kidney disease) of subjects respectively.

H. Validity

Relevant content coverage validity for the Socio-demographic and Health profile data was established by 12 experts who include a nephrologist, a doctoral degree nurse, a Nursing superintendent and nine nursing professors. The suggestions and recommendation given by the experts were relevant and incorporated in the tool.

I. Reliability

The tool consisted of Socio-demographic and Health profile data. The items in the socio-demographic and health profile data sheet were exclusive of relevance to each other. Hence, it was not essential for reliability to be computed for this tool.

J. Ethical clearance

The ethical clearance for this study was obtained from the ethics committee.

K. Pilot study

Pilot study was conducted at Tertiary care hospital, Bangalore. A total of 27 subjects who fulfilled the inclusion criteria were selected at dialysis unit of the hospital for the study. On completion of pilot study, it was found that it was feasible and practicable to undertake main study.

L. Data collection procedure

Permission to conduct study was obtained from hospital authority. A total of 260 subjects who met the inclusion criteria were selected by using non-probability convenient sampling technique for the study. Subjects were given detailed information about the study and informed consent was obtained from all the subjects. Information regarding Socio-demographic and Health profile was collected by interview method. The time taken by each subject was about 20-30 minutes. Approximately 15-20 subjects were assessed per day. The collected data were coded and entered in the master sheet.

M. Statistical method

The data analysis was done by using descriptive statistics. SPSS (version 20) was used to analyse the data. Results obtained are discussed in the following areas;

- **Part I:** Frequency and Percentage distribution of Socio-demographic profile
- **Part II:** Frequency and Percentage distribution of Health profile
  - **Section A**: Systemic disease status.
  - **Section B**: Ailments related to hemodialysis and chronic kidney disease.

Results

The collected data were analysed according to the objectives of study. The findings are presented below.

I: Socio demographic profile of the subjects

Frequency and percentage distribution were computed for Socio-demographic profile of the subjects.

Table 1: Frequency and percentage distribution of subjects with regard to socio- demographic variables (age, gender, religion, education level, current employment status and present health status interfering with work) n=260

S. No.	Socio demographic variables	Frequency (f)	Percentage (%)
1	Age (In completed years)		
	26 – 41	84	32.3
	42 – 57	72	27.7
	58 – 73	104	40
2	Gender		
	Male	182	70.0
	Female	78	30.0

	Transgender	0	0
3	Religion		
	Hindu	232	89.2
	Muslim	16	6.2
	Christian	12	4.6
	Others	0	0
4.	Education Level		
	Professional / Honors	110	42.3
	Graduate	66	25.4
	Intermediate / Diploma	44	16.9
	High school certificate	24	9.2
	Middle school certificate	9	3.5
	Primary school certificate	0	0
	No formal education	7	2.7
5.	Current Employment Status		
	Working for full time	29	11.1
	Working for part time	43	16.5
	Business	28	10.8
	Unemployed / laid off / looking for work	28	10.8
	Retired	63	24.2
	Disabled	15	5.8
	Homemaker	54	20.8
6.	Is your present health causing problem with your work?		
	No	138	53.0
	Yes	122	47.0

Table 1: depicts that, (40%) of the subjects belongs to the age group of 58-73 years, (70%) of the subjects were males and (30%) of the subjects were females showing male predominance over female in treatment undergoing haemodialysis, (89.2%) of the subjects belonged to Hindu religion and (42.3%) of the subjects had professional degree. (63%) of the subjects were retired, (16.5%) of the subjects were doing part time job and (10.8%) were unemployed. only (47%) of the subjects were having problem in their current employment.

Table 2: Frequency and percentage distribution of subjects with regard to socio- demographic variables (Monthly household income, sole bread winner of family, marital status, number of children, type of family, dietary pattern, BMI estimation and weight changes) n=260

S. No.	Socio demographic variables	Frequency(f)	Percentage (%)
7.	Total monthly household income (from all sources)		
	Rs. 11,000 -30,000	76	29.2
	Rs. 31,000 – 50,999	109	41.9
	Rs. 51,000 – 70,000	38	14.7
	Rs. >70,000	37	14.2
8.	Are you sole bread winner of the family?		
	No	173	66.5
	Yes	87	33.5
9.	Marital status		
	Single	47	18.0
	Married	198	76.2
	Divorcee	3	1.2
	Separated	0	0
	Widow / Widower	12	4.6
10.	Number of children		
	No children	55	21.1
	One children	87	33.4
	Two children	100	38.5
	More than two children	18	7
11.	Type of family		
	Joint	129	49.6
	Nuclear	131	50.4
	Extended	0	0
12.	Dietary pattern		
	Vegetarian	138	53.1
	Non-vegetarian	122	46.9
13.	Asian Body Mass Index (BMI) [kg/m2] Estimation		
	Underweight (< 18.5)	42	16.1
	Normal (18.5 – 22.9)	98	37.7
	Over Weight (23 – 24.9)	30	11.5
	Pre Obese (25 – 29.9)	75	28.9
	Obese I (30 – 40)	15	5.8
	Obese II (40.1 – 50)	0	0

	Obese III (>50)	0	0
14.	Weight changes in last 6 months		
	No weight change	127	48.8
	Weight gain	41	15.8
	Weight loss	92	35.4

Table 2: shows that, around half of the subject's (41.9%) monthly household income was between Rs.31, 000 – 50,999 and (33.5%) subjects were sole bread winner of their family. (76.2%) of the subjects were married, (38.5%) of the subjects were having two children and (50.4%) of the subjects belongs to nuclear family. (53.1%) of the subjects follow vegetarian dietary pattern. Most (37.7%) of the subjects were having normal BMI, (28.9%) of the subjects falls under pre obese category and (16.1%) of the subjects were under weight. (48.8%) of the subjects had not experienced any weight changes in last six months.

Table 3: Frequency and percentage distribution of subjects with regard to socio- demographic variables (Smoking habits, alcohol consumption, residence, transportation used, distance needs to be covered, dialysis centre near residence, reason for visiting hospital and money spent on transportation)

n=260

S. No.	Socio demographic variables	Frequency (f)	Percentage (%)
15.	Have you ever smoked or used tobacco?		
	Never smoked	217	83.5
	At present smoking	5	1.9
	Restricted smoking	38	14.6
16.	Have you ever consumed alcohol?		
	Never consume alcohol	200	76.9
	Regularly consume alcohol	5	1.9
	Restricted alcohol consumption	55	21.2
17.	Residence		
	Urban	187	71.9
	Rural	73	28.1
18.	Type of transportation used to reach dialysis centre		
	Own transportation (Car, Bike ,Bicycle)	107	41.2
	Private transportation (Taxi, Cab)	118	45.3
	Public transportation (Bus, Train, Metro)	14	5.4
	Medical transportation Van	14	5.4
	Walking	7	2.7
19.	How much distance needs to be covered to reach the hospital?		

	1 – 5 km	77	29.7
	6– 10 km	50	19.2
	11 – 15 km	51	19.6
	>15 km	82	31.5
20.	Is there any Dialysis centre near your Residence?		
	Yes	167	64.2
	No	93	35.8
20.1	If Yes, why are you visiting this hospital?		
	Can't get appointment in nearby hospitals	13	5.0
	Better facilities	90	34.6
	Better comfort and care	48	18.4
	Admitted / started treatment in this hospital	14	5.4
	Competent consultants	72	27.6
	Insurance / Government aid facilities	23	9
21.	Money spent on transportation (per month)		
	<Rs. 1000	68	26.2
	Rs. 1000 – 2,999	101	38.8
	Rs. 3,000 – 5,000	64	24.6
	> Rs. 5000	27	10.4

Table 3: reveals that, (83.5%) of the subjects never smoked and (21.2%) of the subjects restricted alcohol consumption. Majority of the subjects (71.9%) were residing in urban areas of Bangalore, (45.3%) of the subjects were using private transport, (31.5%) of the subjects were travelling > 15 km and (19.6%) were travelling 11-15 km to reach the hospital. (64.2%) of the subjects were having dialysis centre near their residence and (34.6%) of the subjects were visiting Ramaiah Memorial hospital due to better facilities. (38.8%) of the subjects were spending Rs 1000 – 2,999 and (24.6%) of the subjects were spending Rs. 3,000 – 5,000 per month for transportation.

Table 4: Frequency and percentage distribution of subjects with regard to socio- demographic variables (Who accompanies subjects to dialysis centre, age of diagnosis with CKD, cause of kidney disease, family history of CKD and age at commencement of haemodialysis) n=260

S. No.	Socio demographic variables	Frequency (f)	Percentage (%)
22.	Who accompanies you to dialysis centre?		
	Nobody	109	41.9
	Parents	10	3.9
	Sibling	15	5.7
	Spouse	81	31.2

	Children	35	13.4
	Friends	3	1.2
	Others	7	2.7
23	Age at which you were diagnosed with Chronic kidney disease (CKD)?		
	18 – 28 years	35	13.5
	29 – 39 years	68	26.2
	40 – 50 years	59	22.7
	51 – 61 years	47	18
	62 – 72 years	38	14.6
	73 – 83 years	13	5
24	What caused your Kidney disease?		
	Don't Know	0	0
	Hypertension (High Blood Pressure)	49	18.8
	Diabetes Mellitus	10	3.8
	Hypertension and Diabetes	65	25.0
	Hypertension and Cardiac Problems	13	5.0
	Diabetes and Cardiac Problems	6	2.3
	Hypertension, Diabetes and Cardiac Problems	13	5.0
	Hypertension and Polycystic Kidney Disease	6	2.3
	Hypertension and Chronic Glomerulonephritis	9	3.5
	Hypertension and Chronic Pyelonephritis	11	4.2
	Diabetes and Polycystic Kidney Disease	9	3.5
	Diabetes and Chronic Glomerulonephritis	11	4.2
	Diabetes and Chronic Pyelonephritis	8	3.1
	Over use of non-prescription pain killers	25	9.7
	Hypertension, Cardiac Problems and Over use of non-prescription pain killers	10	3.8
	Others	15	5.8
25	Family history of Chronic kidney disease (CKD)		
	No	217	83.5
	Yes	43	16.5
26	Age at commencement of Haemodialysis (HD)		
	20 – 35 years	51	19.6
	36 – 51 years	103	39.6

	52 – 67 years	94	36.2
	68 – 83 years	12	4.6

Table 4: reveals that, (41.9%) of the subjects were not accompanied by anyone to dialysis centre. (26.2%) of the subjects between age group of 29 – 39 years and (22.7%) between age group 40 – 50 years were diagnosed with CKD. Hypertension and Diabetes (25%), only Hypertension (18.8%) and over use of non-prescription painkillers (9.7%) were main causes of the subject's kidney disease. only (16.5%) of the subjects had family history of CKD, (39.6%) of the subjects had begun their haemodialysis between age group of 36 – 51 years.

Table 5: Frequency and percentage distribution of subjects with regard to socio- demographic variables (Time period of haemodialysis treatment, day/week receiving haemodialysis, hours/visit of haemodialysis treatment, plan for transplantation, donor's status, relation with donor and gender of donor) n=260

S. No.	Socio demographic variables	Frequency(f)	Percentage (%)
27	How long have you been on haemodialysis?		
	< 1 year	53	20.4
	1 – 5 years	112	43.1
	6 – 10 years	72	27.7
	>10 years	23	8.8
28	How many days a week do you receive Haemodialysis treatment?		
	1 day	30	11.5
	2 days	91	35
	3 days	139	53.5
29.	How many hours are you treated for each Haemodialysis?		
	<3 hours	7	2.7
	3 hours	43	16.5
	4 hours	210	80.8
30	Have you planned for Kidney transplantation? If yes, is donor available?		
	Not planned	174	66.9
	Planned, Donor available	12	4.6
	Planned, Donor Not available	35	13.5
	Kidney transplanted failure	39	15
30.1	From whom have you received kidney?		
	Living donor	30	77
	Cadaver (Dead body)	9	23
30.2	What is donor's relationship with you?		

	Mother	13	33.4
	Wife	17	43.6
	Cadaver (Dead body)	9	23
30.3	Gender of the donor		
	Male	5	12.8
	Female	34	87.2

Table 5: depicts that, (43.1%) of the subjects had been on haemodialysis between 1 – 5 years and (53.5%) of the subjects were receiving haemodialysis treatment 3 days/week. (80.8%) of the subjects were undergoing 4 hours of haemodialysis during each visit. (18.1%) of the subjects have planned for kidney transplantation, and only (15%) of the subjects underwent transplantation out of which (77%) were living donors and (23%) cadaver. Most (43.6%) of the subject's donor were their wives and (87.2%) of the subject's donors were females.

Table 6: Frequency and percentage distribution of subjects with regard to socio- demographic variables (Monthly expenses on treatment, health insurance and financial support) n=260

S.No.	Socio demographic variables	Frequency (f)	Percentage (%)
31	Monthly expenses towards medication and treatment		
	15,000 – 22,999	145	55.8
	23,000 – 30,000	85	32.7
	>30,000	30	11.5
32	Do you have any Health Insurance?		
	Yes	158	60.8
	No	102	39.2
33	Who supports financially for your treatment?		
	Spouse	59	22.7
	Children	72	27.7
	Relatives	33	12.7
	Government Aid	60	23
	Non-Government organization	6	2.3
	Self-Resources	30	11.6

Table 6: depicts that, (55.8%) of the subject's monthly expenses on treatment and medication was between ranges of Rs 15000 – 22,999. (60.8%) of the subjects were having health insurance and (27.7%) of the subjects were financially supported by their children.

Health profile of the subjects.

Frequency and percentage distribution were computed for Health profile of the subjects.

Section A: Systemic disease status

Table 7: Frequency and percentage distribution of subjects with regard to Systemic disease status (Cardiovascular)

S. No.	Variables	Frequency (f)	Percentage (%)
1.	Cardiovascular System		
	Hypertension	233	89.6
	Heart Failure	20	7.7
	Ischemic Heart Disease	19	7.3
	Peripheral Vascular Disease	13	5
	Valvular/Septal defect	5	1.9
	Deep venous thrombosis	6	2.3
	Rheumatic heart disease	5	1.9

Table 7: depicts that, (89.6%) of the subjects were diagnosed with Hypertension.

Table 8: Frequency and percentage distribution of subjects with regard to Systemic disease status (Haematological, respiratory system, digestive and Hepatobiliary, renal and Endocrine/metabolic system) n=260

S.No.	Variables	Frequency(f)	Percentage(%)
2.	Hematological System		
	Anemia	117	45
3.	Respiratory System		
	Good Pasture Syndrome	3	1.2
	Pleural Effusion	13	5
4.	Digestive System		
	Esophagitis	8	3.1
	Gastritis	20	7.7
	Gastro oesophageal reflux disorder (GERD)	11	4.2
	Hernia (Abdominal Inguinal)	5	1.9
5.	Hepatobiliary System		
	Biliary tract disease	5	1.9
6.	Renal System		
	Nephrotic syndrome	11	4.3
	Hydronephrosis	9	3.5
	Diabetic kidney disease	7	2.7
	Small kidney disease	6	2.3

	Hypertensive nephropathy	6	2.3
	Interstitial nephritis	4	1.5
	Nephron sclerosis	5	1.9
7.	Endocrine / Metabolic System		
	Hypothyroid	8	3.1
	Diabetes mellitus (type I)	14	5.4
	Diabetes mellitus (type II)	165	63.4

Table 8: depicts that, (7.7%) had heart failure and (7.3%) had ischemic heart disease. (45%) of the subjects were having Anaemia and (5%) of the subjects had pleural effusion. (7.7%) of the subjects had gastritis and (4.2%) had GERD. (4.3%) of the subjects had Nephrotic syndrome and (63.4%) of the subjects had Diabetes mellitus – II.

Table 9: Frequency and percentage distribution of subjects with regard to Systemic disease status (reproductive, urinary system and other health problems)n=260

S. No.	Variables	Frequency(f)	Percentage(%)
8.	Reproductive System		
	Amenorrhea/Irregular periods	36	13.8
	Dysmenorrhea	16	6.2
	Benign prostate hyperplasia	13	5
9.	Urinary Tract System		
	Urinary tract infection (UTI)	25	9.6
	Obstructive uropathy	20	7.7
10.	Other Health Problems		
	Allergy / Hypersensitivity	12	4.6
	Cancer	5	1.9
	Communicable disease	14	5.3

Table 9: depicts that, (9.6%) of the subjects had UTI, (7.7%) of the subjects had obstructive uropathy and (5.3%) of the subjects were diagnosed with communicable disease.

Section B: Ailments related to hemodialysis and chronic kidney disease

Table 10: Frequency and percentage distribution of subjects with regard to Ailments experienced during last two weeks. n=260

S. No.	Variables	Frequency (f)	Percentage (%)
1	Low levels of hemoglobin	117	45

2	Shortness of breath	32	12.3
3	Chest pain	53	20.4
4	Hypoglycemia [lower blood sugar level]	124	47.7
5	High Blood Pressure	233	89.6
6	Low Blood Pressure	28	10.8

Table 10: shows that, frequent ailments found in subjects undergoing haemodialysis were, high blood Pressure (89.6%), low levels of haemoglobin (45%) and lower blood sugar level (47.7%).

Table 11: Frequency and percentage distribution of subjects with regard to Ailments experienced during last two weeks.

n=260

S. No.	Variables	Frequency (f)	Percentage (%)
7	Infection / Pyrogenic reaction related to fistula	0	0
8	Fluid overload	25	9.6
9	Neuropathy [Pins and needle sensation]	10	3.8
10	Severe headache	80	30.8
11	Fatigue / Weakness / body pain / back pain	67	25.7
12	Cognitive impairment [difficulty in concentrating]	36	13.8
13	Constipation [difficulty in passing motion]	10	37.0
14	Vision problem / glaucoma / cataract	9	33.3
15	Excessive thirst [Polydipsia]	10	37.0
16	Night sweats / Nocturnal Diaphoresis	3	11.1
17	Skin problems – cold / clammy / darkening / itching	12	44.4
18	Muscle cramps	15	55.5
19	Nausea / Vomiting	4	14.8
20	Sleep disorders [disturbance in sleeping]	9	33.3
21	Edema / Swelling of ankles, lower legs	11	40.7
22	Ascites	8	29.6
23	Oropharynx related problems	8	29.6

24	Other ailments	7	25.9

Table 11: shows that, frequent ailments found in subjects undergoing haemodialysis were, (47.7%), severe headache (30.8), fatigue and body pain (25.7%), muscle cramps (55.5%), skin problems (44.4%), Edema (40.7%), constipation (37%), excessive thirst (37%), sleep disorders and vision problems each with (33.3%) were common ailments found in subjects.

Discussion

End stage renal disease has a considerable impact on the functional status and quality of life perceived by the patient. Even in relatively early stages, it may be accompanied by symptoms that effect daily life. The present study focused on the assessment of socio-demographic and health variables among CKD patients undergoing haemodialysis. The socio-demographics obtained from the study population were slightly different from previous studies. Based on the result of present study, mean age at which the subjects were diagnosed with CKD was 43.3, majority (70%) of the subjects were males and (30%) were females showing male predominance over female in undergoing haemodialysis treatment. Similar, results were observed in, an observational study conducted in Lahore, Pakistan showed that, majority of subjects were above 45 years of age, (71.2%) were males and (28.8%) of the subjects were females. In the current study, (24.2%) of the subjects were retired, (16.5%) were working for part time and (10.8%) were unemployed. (47%) of the subjects felt interference in work area. This is consistent with the study mentioned above, (67.2%) of the subjects were literate and only (17.6%) were employed. (79.2%) of the subjects were married and in (69.6%) cases number of family members were < 8. Majority (80%) of the subjects were from urban areas. The current study showcased that, most of the subjects belong to middle and low income group. (16.1%) of the subjects were under weight and (28.9%) were pre-obese. (31.5%) of the subjects travels >15 km and (19.6%) travels 11-15 km distance to reach dialysis center. (24.6%) of the subjects were spending Rs.3, 000 – 5,999 per month on transportation. Hypertension and Diabetes (25%) were main causes of the subject's kidney disease followed by over use of non-prescription pain killers (9.7%). (43.1%) of the subjects have been on haemodialysis between 1–5 years, (53.5%) of the subjects received haemodialysis treatment 3 days/week and (80.8%) of the subjects were undergoing 4 hours of haemodialysis treatment during each visit. (18.1%) of the subjects had planned for kidney transplantation and (15%) of the subjects underwent transplantation out of which (77%) were living donors and (23%) cadaver (dead body). Most (87.2%) of the donors were females. (55.8%) of the subject's monthly expenses for treatment and medication was between range of Rs 15,000 – 22,999. However, study differed in findings related to sociodemographic variables like monthly income, type of transport , distance cover to reach dialysis centre and total time consumed (hours) in getting haemodialysis treatment. [11] Another study conducted in Davangere, Karnataka pinpoints that, (45%) of people didn't undergo renal transplant due to lack of financial support and (23%) told lack of donors. (39%) of the subjects felt interference to some extent and (9%) felt to greater extent in fulfilment of day job. (74%) reported illness

intrusion in area of work. Majority (55%) of study subjects were undergoing dialysis from past 2 years and (38%) of the subjects between 2-5 years. However, the study had different findings in terms of financial support, days/week dialysis treatment and money spent per month on dialysis treatment. [22] Various studies conducted in India and abroad showed similar findings.[16-19] The result studies clearly indicates that, (89.6%) of the subjects were diagnosed with hypertension, (7.7%) had heart failure, (7.3%) had ischemic heart disease and (45%) were having anaemia. Majority (63.4%) of the subjects had Diabetes mellitus - II, (9.6%) of the subjects had UTI, (7.7%) had heart failure, (5.8%) had obstructive uropathy, (4.6%) had ischemic heart disease and (5.3%) of the subjects were diagnosed with communicable disease. (7.7%) of the subjects had gastritis, (4.3%) of the subjects had Nephrotic syndrome and (5%) of the subjects were diagnosed with pleural effusion. (3.5%) of the subjects had hydro-Nephrosis, (2.7%) had diabetic kidney disease, (2.4%) had hypertensive nephropathy, (1.9%) had nephron sclerosis and (1.5%) of the subjects were diagnosed with interstitial nephritis. Similar, results were observed in the study conducted at All India Institute of Medical Sciences, New Delhi. Aetiologically, diabetes (41%), hypertension (22%), chronic glomerular nephritis (16%), chronic interstitial disease (5.4%), ischemic nephropathy (5.4%), and obstructive uropathy (2.7%), miscellaneous (2.7%) and unknown causes (5.4%) constituted the spectrum. [15] Another study conducted at Varanasi depicts that, diabetes mellitus, hypertension and higher creatinine levels were found to be significant predictors of chronic kidney disease.[26] One more study was conducted at Shimoga district, Karnataka, conveys that, prevalence of diabetes was (3.82%), hypertension (33.62%) and Ischemic heart disease (0.87%).[4] A Hospital based cross-section study conducted at Ethiopia pinpoints that, factors associated with CKD were uncontrolled blood pressure, fasting blood sugar ≥ 150 mg/dl, angiotensin converting enzyme inhibitors (ACEIs) nonusers and long duration of hypertension. [17] The study conducted at Karnataka Institute of Medical Sciences (KIMS), had shown different findings that, the most prevailing etiology for CRF was chronic glomerulonephritis (40%), followed by diabetes mellitus (30%), pyelonephritis (25%) and hypertension (8%). However, similar observation was found in terms of anaemia, as the most common complication of chronic renal failure. [17] Another prospective study was conducted at Christian Medical College, Vellore, showed that, Glomerulus nephritis (70.5%) was most common cause of CRF followed by interstitial nephritis (12%), hypertensive arteriosclerosis (6.6%) and metabolic nephropathies (6.1%). [30] Various studies conducted in India showed similar findings. [24, 25] The present study findings revealed that, frequent ailments found in subjects undergoing haemodialysis were, high blood Pressure (89.6%), low levels of haemoglobin (45%), lower blood sugar level (47.7%), severe headache (30.8), fatigue/body pain (25.7%), muscle cramps (55.5%), skin problems (44.4%), Edema (40.7%), constipation (37%), excessive thirst (37%), sleep disorders and vision problems each with (33.3%).Similar, study from Serdang, Malaysia showed that, the most common ailments present in CKD patients undergoing haemodialysis was the presence of anaemia (83%). Most of the patients were asymptomatic; however, (12.3%) had symptoms of fluid overload, (7.7%) of the subjects complained of lethargy and poor appetite for each ailment. But the

given study had shown different findings in terms of skin problems present in only (1.5%) of the subjects. [28]

Limitations

Authenticity of the information regarding socio-demographic profile and health profile is based on the response of the subjects.

Limited sample size has restricted the generalization of the findings.

Conclusion

Chronic kidney disease not only influences social life of patients but also responsible for morbidity, mortality and loss of productivity. Patients undergoing haemodialysis experiences wide variation in social and demographical characteristics and puts a major economic strain on the health care system. Though, several advances have been made in understanding haemodialysis treatment, there is a paucity of published Indian studies focussing on beneficial role of Social support and in dealing with ailments related to chronic kidney disease and haemodialysis. Thus, there is considerable potential for enhancement of quality of life by minimizing the modifiable socio-demographic and health profile.

Acknowledgement:I would like to express my sincere gratitude to the management of Tertiary care hospital, Bangalore for providing me the opportunity to undertake the study in their esteemed institute even in times of pandemic. My heartfelt thanks to all the participants who have willingly participated in the study and without whom I would not have been able to complete the research study. Very special thanks to all to all my well-wishers and others who helped me directly and indirectly in completion of the study.

References

1. S.A. Nayan, T. Balasubramanian, P.M. Nathaliya, et al.,“ A cross sectional study on assessment of health related quality of life among end stage renal disease patients undergoing haemodialysis”, Clinical epidemiology and global health, [internet], 5(2017),148-153,doi: http//dx.doi.org/10.1016/j.cegh.2016.08.005. Available from: www.elsevier.com/locate/cegh.
2. Carlos M. Orantes, Raúl Herrera, Miguel Almaguer , et, al., “Chronic kidney disease and associated risk factors in the Bajo Lempa Region of El Salvador: Nefrolempa study, 2009”, MEDICC Review, October 2011;13, (4):14-22, DOI: 10.1590/S1555-79602011000400006. Available from :https://www.researchgate .net /publication/51854687_ Chronic_kidney_disease-and-associated risk-factors _the_Bajo_Lempa_Region_of_El_Salvador_Nefrolempa-study-2009.
3. Varghese Santosh, Georgia Abraham, “Chronic Kidney disease in India” CJASN, [internet], May 2018; 13, (5): 802-804; doi;https;//doi.org/10.2215/cjn.0918081. Available from: https://Cjasn.asnjournals.org/content/13/5/802/tab-articleinfo.
4. Anupama YJ, Uma G., “Prevalence of chronic kidney disease among adults in a rural community in South India: Results from the kidney disease screening (KIDS) project” Indian J Nephrol, [internet], 2014;24,(4):214-21Availableat:http://www.indianjnephrol,Org/article.asp?issn=09714065;year=2014;volume=24;issue=4;spage14;epage=221;aulast=Anupama.
5. Mahajan S, Gupta S, Agarwal M, Yadav S, Sabitha P, Khakha D., “Effect of cryotherapy on arteriovenous fistula puncture-related pain in haemodialysis patients”, Indian Journal of

Nephrology [Internet], 2008 [cited8November2017]; 18(4):155. Available from:http://www.researchgate.net/publication/26581391

6. "The effect of cryotherapy on arteriovenous fistula puncture pain among patients on haemodialysis in selected hospital at Trichy". – Eprints@Tamil Nadu Dr MGR Medical University [Internet]. Repository-tnmgrmu.ac.in.2019 [cited 5 May 2019]. Available from: http://respository-tnmgrmu.ac.in/2859/
7. Fareed M E, Abd El-Hay A H, El-Sikh A., "A Cutaneous Stimulation: Its effect on pain relieving among hemodialysis patients", Journal of education and practice [Internet], 2014 [cited19November2017]; 5 (1): p 9-20. Available from: http://www.iiste.org/Journals/indexphp/JEP/article/view/10405/10813.
8. Sundar S, Gowri D, Arun S., "Assess the effectiveness of cryotherapy on arteriovenous fistula puncture site pain among patients on haemodialysis", International journal of Pharma and Bio Sciences [Internet], 2017 [cited5December2017];893):69-76. Available from: http://dx.doi.org/10.22376/ijpbs.2017.8.3.b69-76.
9. Sathvik BS, Parthasarathi G, Narahari MG, Gurudev KC, "An assessment of the quality of life in haemodialysis patients using the WHOQOL-BREF questionnaire, Indian J Nephrol. [Internet],2008;18(4):141-149. Available from: http://dx.doi.org/10.2147IJNRD.s136522
10. Bapat Usha, Kedllaya PG, Gokulnath, "Percieved illness intrusion among patients on haemodialysis, Saudi J Kidney dis and transpl. [Internet], 2009;20(3):386-391.
11. Muhammad Anees, Muzammil Riaz Malik, Tanzeel Abbasi, et, al., "Demographic factor affecting quality of life of haemodialysis patient", PakJMedSci[internet],2014;30,(5):1123-1127,doi: http://dx.doi.org/10.12669/pjms .305.5239, Available from: www.pjms.com.pk.
12. Robert C. Stanton, "Clinical Challenges in Diagnosis and Management of Diabetic Kidney Disease", Am J Kidney Dis, [internet], 2014;63(2):S3 S21,DOI:http://dx.doi.org/10.1053/j.ajkd.2013.10.050. Availablefrom:http://www.nefroinfo.com/medicos/UCol/Clinical%20Challenges%20in%20Diagnosis%20and%20Management%20of.pdf.
13. Cabrera, V. J., Hansson, J, Kliger, A. S., & Finkelstein, F. O. "Symptom management of the patient with ckd : the role of dialysis", CJASN, [internet],(2017); 12, (4):687–693. doi:10.2215/CJN.01650216, Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5383375/.
14. Mills KT, Xu Y, Zhang W, Bundy JD, Chen CS, Kelly TN, Chen J, He J., "A systematic analysis of worldwide population-based data on the global burden of chronic kidney disease in 2010", Kidney Int.[Internet]2015;88(5):950Availablefrom:https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4653075/
15. Valderrabano F, Jofre R, Lopez Gomez JM., "Quality of life in end stage renal disease patients", Am J Kidney Dis.[Internet], 2001;38:443-464. Available from: http:// www.pjms.com.pk/ Pak J Med Sci 2014 Vol. 30 No. 5.
16. Rongzhi Zhang, Xiaohui Cui, Haiying Zhuang , Wenjun Xie , Lujie lv, et. al., "The Burden for Caring Patients on Maintenance Hemodialysis is

Influenced by Social and Demographic Factors", Gen Med (Los Angeles) [Internet], 2016 December;4(6):p1-4, doi:10.4172/2327-5146.1000281. Available from: https://www.longdom.org/open-access/the-burden-for-caring-patients-on-maintenance-hemodialysis-is-influenced-bysocial-and-demographic-factors-2327-5146-1000281.pdf

17. Marta Freitas Olim, Sonia Guadalupe, Francisca Mota, Paula Fragoso, Susana Ribeiro, et. ai., "Sociographic Profile of Hemodialysis Patients in Portugal", National Kidney Foundation Journal of Nephrology Social Work [Internet]; 4,:p2710-089 Available from: https://www.researchgate.net/profile/Sonia_Guadalupe/publication/327248803_Sociographic_Profile_of_Hemodialysis_Patients_in_Portugal/links/5b840ef84585151fd135fd10/Sociographic-Profile-of-Hemodialysis-Patients-in-Portugal.
18. Ranjani N. Moorthi,Kenzie Latham-Mintus, "Social isolation in chronic kidney disease and the role of mobility limitation", Clinical Kidney Journal[Internet], 14 Jan2019;12(4): 602–610, doi: 10.1093/ckj/sfy134. Available from: https://www.researchgate.net/publication/335023273_Social_isolation_in_chronic_kidney_disease_and_the_role_of_mobility_limitation.
19. Xhulia Dhima, Gerta Jaku, Dajana Zefaj, et, al., "Needs of haemodialysis patients and factors affecting them", Global journal of health science,[internet].Oct20,2015;8,(6):109120,doi:10.5539/gjhs.v8n6p109.Availablefrom:URL:http//dx.doi.org/10.5539/gjhs.v8n6p109.
20. Santosh. A , Kanchana Nagendra , B.A.Varadaraja Rao, "Socio demographic and economic factors associated with people on Hemo-dialysis in a tertiary care hospital, Davangere: A cross sectional study", National Journal of Research in Community Medicine[Internet], Dec.2016;5(4):241-245. Available from: https://journals.indexcopernicus.com/api/file/viewByFileId/142302.pdf.
21. Jamie A. Green, Maria K. Mor, Anne Marie Shields, Mary Ann Sevick Paul M. Palevsky, et.al., "Prevalence and Demographic and Clinical Associations of Health Literacy in Patients on Maintenance Haemodialysis", Clin J Am Soc Nephrol.[Internet],2011 Jun; 6(6): 1354–60,doi:10.2215/CJN.09761110. Available from: https://pubmed.ncbi.nlm.nih.gov/21551025/
22. Kabaye Kumela Goro , Amare Desalegn Wolide, Fantu Kerga Dibaba, Fanta Gashe Fufa , 1Aster Wakjira Garedow, et. al., "Patient Awareness, Prevalence, and Risk Factors of Chronic Kidney Disease among Diabetes Mellitus and Hypertensive Patients at Jimma University Medical Center, Ethiopia",HindawiBioMedResearchInternational[Internet],May2019;article389(1):p8,https://doi.org/10.1155/2019/ 2383508. Available from: https://www.researchgate.net/publication/333055136
23. Sonam Kumar Sajith, Areekal Binu, Varghese George Rosin, et, al., "Chronic kidney disease – prevalence and determinants among type 2 diabetes mellitus patients attending a primary care setting in central Kerala", International journal of community medicine and public health, [internet], July 2018;5, (7):2776-2781, pISSN 2394-6032, eISSN 2394-6040, DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph.20182453. Available from:http://www.ijcmph.com.

24. Arjun Chakravarti , Archana Ukey, Preeti Bajaj,Pradnya Saragade et. al., "A Study of Hematological Profile in Patients of Chronic Renal Failure Undergoing Hemodialysis at a Tertiary Health Care Institute", MVP Journal of Medical Sciences[Internet], December 2017;4(2):107–112, doi: 10.18311/mvpjms/2017/v4i2/9592. Available from: http://www.informaticsjournals.com/index.php/mvpjms/article/viewFile/9592/15522
25. Rai Pradeep K, Rai Punam, Bedi Sonam, et. al., "Prevalence and risk factors of chronic kidney disease: a single day screening on World kidney day for four consecutive years in Varanasi", Med Crave J. [Internet], Nov. 2018; 6(5):p167-171. Available from: medcraveonline.com/UNOAJ/prevalence-and-risk-factors-of-chronic-kidney-disease-a-single-day-screening-on-world-kidney-day-for-four-consecutive-years-in-varanasi.html.
26. GR. Lakshminarayana, LG Sheetal, A Mathew, et. al., "Hemodialysis outcomes and practice patterns in ESRD: experience from a tertiary care hospital in Kerala" Indian Journal of Nephrology,[internet],Jan2017;27,(1):5157,doi:10.4103/097140 65.177210. Available from:http://www.indianjnephrol.org/article.asp?issn=0974065;year=2017;volume=27;issue1;Page51;epage=57;aulast=Lakshminarayan
27. Lim CTS, Raihan R, Fikri ASMZ. "Risk profiles of referred chronic kidney disease patients in a tertiary nephrology centre", Pak J Med Sci. [Internet], 2016;32(1):27-30. doi: http://dx.doi.org/10.12669/pjms.321.8214. Available from: https://pdfs.semanticscholar.org/2c5c/1d4fae4c64522da350720e7893353961ba3d.pdf
28. Swaraj Sathyan , Sunil George , Poornima Vijayan, et. al., "Clinical and epidemiological profile of chronic kidney disease patients in a tertiary care referral centre in South India", Int J Community Med Public Health[Internet, 2016 Dec;3(12):3487-3492, doi: http://dx.doi.org/10.18203/2394-6040.ijcmph20164279. Available from: https://www.ijcmph.com/index.php/ijcmph/article/view/135
29. Dharan KS, John DT, Neelakantan, et al., "Specturm of Chronic kidney disease in India: a clinical pathological study", NMJI [Internet], 2006 Sep; 19(5):250-249. Available from: https://www.semanticscholar.org/paper/Spectrum-of-severe-chronic-kidneydiseaseinIndia%3ADharan John/b517cff4c34fd6df36a1e56235b2389aadd215d0
30. Innocent Ijezie Chukwuonye , Kenneth Arinze Ohagwu, Olufemi Oladipo Adelowo , et. al., "Prevalence and Predictors of Chronic Kidney Disease in a Semiurban Community in Lagos", Hindawi International Journal of Nephrology [Internet], May 2019;1625837:1-6, https://doi.org/10.1155/2019/162583 .Available from: https://pubmed.ncbi.nlm.nih.gov/31186960/
31. Polikandrioti Maria, Ioannis Koutelekos ,George Vasilopoulos,et,al., "Haemodialysis patient information and associated characteristics", Original paper Mater Sociomed, [internet], Sep. 2017;29, (3):182-187,doi:10.5455/msm.2017.29.182-187. Available from:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5644202/.

32. Marie P Halle, Christian Takongue , Andre P Kengne, et. al., “Epidemiological profile of patients with end stage renal disease in a referral hospital in Cameroon”, BMC Nephrology [Internet], April 2015;16(59):1-8,doi 10.1186/s12882-015-0044-2. Available from: https://pubmed.ncbi.nlm.nih.gov/25896605/
33. Yaw Ampem Amoako,Dennis Odai Laryea, George Bedu-Addo, et. al., “Clinical and demographic characteristics of chronic kidney disease patients in a tertiary facility in Ghana”, Pan African Medical Journal[Internet], 2014; 18:p274, doi:10.11604/pamj.2014.18.274.4192. Available from: http://www.panafrican-med-journal.com/content/article/18/274/full/