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PHYSICAL HEALTH RELATED QUALITY OF LIFE OF END STAGE RENAL DISEASE PATIENTS UNDERGOING DIALYSIS

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ABSTRACT

End stage renal disease(esrd) is an important health problem because renal replacement therapy is considered to be expensive; the high mortality rate involved due to this condition and the effect on a patient's quality of life. Our objective is to study the profile and assess the quality of life of patients undergoing dialysis. A cross-sectional study was carried out for a period of two months to make a profile of the esrd patients and to assess their physical quality of life. A pre structured pre-tested questionnaire was used for data collection and karnofsky rating scale for assessing the physical quality of life of patients. The study was conducted in five hospitals namely gandhi hospital, adarsh hospital, district hospital, udupi and kmc hospital, manipal of udupi taluk. A sample of 120 subjects was contacted for the study. Oral consent was obtained from the patients for the study. Out of 120 patients, 74.17% were male showing the prevalence of esrd is more in males as compared to females in udupi district. The mean age of the respondents was around 52.43+12.63 years. Hypertension (43.3%) was found to be the leading cause of chronic kidney disease which in turn leads to esrd. In our study we found out that the quality of life of esrd patients' is compromised as per the karnofsky rating scale that was used for the assessment. In the study, 30% of the respondents are having their score as less than 70%, which means that they would be needing assistance in their daily normal routine. To summarize, the leading risk factor that can lead to esrd has been established as hypertension and is more prevalent among males than females. Finally, prevention of chronic kidney disease and its progress to esrd should be in the focus which requires awareness among general population as once the disease is established, it makes patient's life compromised. This in turn gives suffering to the family members who are care givers.

Key words: *ESRD, Physical Health Related Quality of Life*

INTRODUCTION

End stage renal disease is a stage of chronic kidney disease due to the lack of renal replacement therapy which could later on lead to mortality. Esrd is an important health problem because renal replacement therapy is considered to be expensive, the high mortality rate involved due to this condition and the effect on a patient's quality of life. There are now over 1 million dialysis patients worldwide, with an incidence of about a quarter of a million patients a year (Monfared et al.,2009).

Risk factors for developing ckd5/end stage renal disease (esrd) differ between races and countries. It would be interesting to know the incidence of esrd and its causes in india. A community based study has not been done to determine the prevalence of esrd in india. Because of the absence of a renal registry in india, the true magnitude of ckd/ esrd is unknown.

Two community based studies, although methodologically different, have shown a prevalence of chronic renal failure of 0.16% (in a south indian village) and 0.78% (based on a population screening in new delhi and a second prospective study that involved 48 hospitals). If these data are applied to india's one billion population, there are approximately 7.85 million ckd patients in india (agarwal et al.,2005).

Definitions of terms

ESRD (End Stage Renal Disease): ESRD is the complete or almost complete failure of kidneys to function.

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Haemodialysis: It is a method for removing waste products such as creatinine and urea as well as free water from the blood when the kidneys are in renal failure.

Quality of life: Quality of life (QOL) is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life.

Physical health related quality of life: The concept of health-related quality of life (HRQOL) and its determinants have evolved since the 1980s to encompass those aspects of overall quality of life that can be clearly shown to affect physical health.

The objective is to study the profile of ESRD patients and to assess the quality of life of ESRD patients undergoing dialysis.

MATERIALS AND METHODS

A Cross-sectional study was carried out for a period of two months (5th Aug 2011 to 10th Nov 2011) to make a profile of the ESRD patients and to assess their physical quality of life. A pre structured questionnaire was used to collect the data. The study was conducted in Gandhi Hospital, Adarsha Hospital, District Hospital, Udupi and KMC Hospital, Manipal of Udupi Taluk. Sample size was estimated on the prevalence criteria

$$n = \frac{z_{\alpha}^2 pq}{d^2}$$

Where, p is the prevalence rate= 0.4

q is (1-p)= 0.6

z_{α} is a constant= 1.96

d is the anticipated marginal error= 0.08

$$n = \frac{(1.96)^2 \times (0.6 \times 0.4)}{(0.08)^2} = 144$$

So, the sample size calculated as 144. All the patients undergoing dialysis in the listed hospitals who were diagnosed of ESRD and had given oral consent were included in the study. Severely ill patients unable to give the answers of the study questions and who were not willing to give oral consent for the study were excluded. Total 24 patients were excluded from the study as per the exclusion criteria and due to limitations. So in total 120 subjects were studied in this study. Tools used for study include data collection format, patient profile, hospital records of the patients and KARNOFSKY rating scale questionnaire. Data was tabulated and analyzed using SPSS software and the interpretation was done.

RESULTS AND DISCUSSION

We had conducted our study at 4 hospitals in Udupi district- Adarsh Hospital, Gandhi Hospital, District Hospital Udupi and KMC, Manipal. The total number of respondents were 120 and out of it 89 (74.16%) were male and 31 (25.83%) were female. The maximum numbers of respondents were in KMC, Manipal i.e. 94 (78.3%). [Table no 1]

In our study we found that most of the patients were from the 45-60 year age group. This was similar to the findings done by a study at Nepal Medical College Teaching Hospital where the most number of patients were also in the 45-60 year age group [Chhetri PK, Manandhar DN, Bhattarai SP, Pahari LR & Shrestha R (2008)]. In our study the mean age of the respondents was around 52 years which was more than the mean age of 46 years from the study of Nepal Medical College [Chhetri PK, Manandhar DN, Bhattarai SP, Pahari LR & Shrestha R (2008)] and similar to the mean age of 56 years from the Guilan Province study from Iran [De Francisco AL, Sanjuan F, ForasterA, Fabado S, Carretero D, Santamaria C, Aguilera J, Alcalá MI, Aljama P (2008)]. The average age of all the respondents was 52.43 (± 12.63) out of which average male age was 53.37 (± 12.01) and the average female age was 49.74 (± 14.13). The maximum numbers of respondents were in the age group of 45-60 years. [Table no 2],

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Table no. 1: Hospital wise distribution of patient

Name of the hospital	Gender				Total	
	Male		Female		Number	Percent
	Number	Percent	Number	Percent		
K.M.C Hospital	70	78.7	24	77.4	94	78.3
Adarsh Hospital	4	4.5	4	12.9	8	6.7
Gandhi Hospital	9	10.1	1	3.2	10	8.3
District Hospital	6	6.7	2	6.5	8	6.7
Total	89	100	31	100	120	100

Table no 2: Socio-demographic details

Age groups	Gender		Total
	Male (%)	Female (%)	
15-30	3(3.4)	2(6.5)	5(4.2)
30-45	14(15.7)	8(25.8)	22(18.3)
45-60	45(50.6)	13(41.9)	58(48.3)
60-75	26(29.2)	7(22.6)	33(27.5)
75-90	1(1.1)	1(3.2)	2(1.7)

Education level			
Illiterate	7(7.9)	2(6.5)	9(7.5)
<5 th std	13(14.6)	3(9.7)	16(13.3)

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5 th - 8 th std	14(15.7)	11(35.5)	25(20.8)
9 th - 10 th std	24(27)	9(29)	33(27.5)
HSC	12(13.5)	2(6.5)	14(11.7)
Graduation	19(21.3)	4(12.9)	23(19.2)

Marital status			
Unmarried	10(11.2)	4(12.9)	14(11.7)
Married	79(88.8)	27(87.1)	106(88.3)

Type of place of residence			
Urban	35(39.03)	12(38.7)	47(39.2)
Rural	54(60.7)	19(61.3)	73(60.8)

Total family income(per month)			
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No income/savings	10(11.2)	5(16.1)	15(12.5)
≤5000	27(30.3)	7(22.6)	34(28.3)
5001-10000	18(20.2)	5(16.1)	23(19.2)
10001-15000	13(14.6)	8(25.8)	21(17.5)
15001-20000	9(10.1)	3(9.7)	12(10)
20001-25000	4(4.5)	0(0)	4(3.3)
>25000	8(9)	3(9.7)	11(9.2)
Diet			
Vegetarian	15(16.9)	4(12.9)	19(15.8)
Mixed	74(83.1)	27(87.1)	101(84.2)

Habits			
Nil	57(64)	25(80.6)	82(68.3)
Alcohol	21(23.6)	5(16.1)	26(21.7)
Smoking	7(7.9)	0(0)	7(5.8)
Paan	2(2.2)	1(3.2)	3(2.5)
Snuffing	2(2.2)	0(0)	2(1.7)
Drugs	0(0)	0(0)	0(0)

Regarding the literacy level, 7.5 % of the respondents were illiterate and 19.2% were graduates. 88.25% of the respondents were married and 11.75% were unmarried. The rural area respondents were 60.8% and urban area were 39.2%. 36.7% of the respondents' monthly income was in the Rs.5001- Rs.15,000 range whereas 40.8 % live on less than Rs 5000 per month. Dietary wise, 84.2% were mixed diet while 15.8 % were vegetarians. Regarding habits (alcohol consumption/ smoking/ drugs/ snuff/ paan), 68.3% did not have any kind of habits before developing ESRD whereas 31.7% were having at least one of the above mentioned habits. [Table no 2]

It showed that there is a poor health seeking behaviour in the general population and also a lack of care of the primary diseases leading to ESRD. There is lack of screening programmes for the early detection and treatment of the early stages of chronic kidney disease to reduce the incidence and prevalence of ESRD.

Table no 3: Biochemical markers

	Gender		Total
	Male	Female	
Haemoglobin	8.48(±1.003)	8.17(±0.94)	8.4(±0.99)
Creatinine	8.64(±2.23)	7.80(±1.92)	8.43(±2.18)

This study also showed that patients are seeking health care facilities very late in the course of their disease. This can be determined from their baseline biochemical markers of the blood like mean Hb level (8.4gm %) and mean Creatinine level (8.43mg/dl) as compared to the results of the Nepal Medical College Study where mean Hb level was 7.2gm% and the mean Creatinine level was 10.95 mg/dl [Chhetri PK, Manandhar DN, Bhattarai SP, Pahari LR & Shrestha R (2008)]. This also showed that anaemia is one of the complications of this disease which was observed in many patients. This is because of many factors- the important one being the lack of Erythropoietin, the main precursor of the RBC production from bone marrow. [Table no 3]

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Our study showed that Hypertension (43.3%) was the leading cause of CKD which in turn leads to ESRD. This is less than the findings in the Nepal College Hospital study where hypertension as the leading cause was 54% [Chhetri PK, Manandhar DN, Bhattarai SP, Pahari LR & Shrestha R (2008)]. But it is marginally higher than the Guilan Province study where hypertension as the leading cause was 29.4% [Monfared A, Safaei A, Panhandeh Z, Nemati L, Emadi SA (2009)].

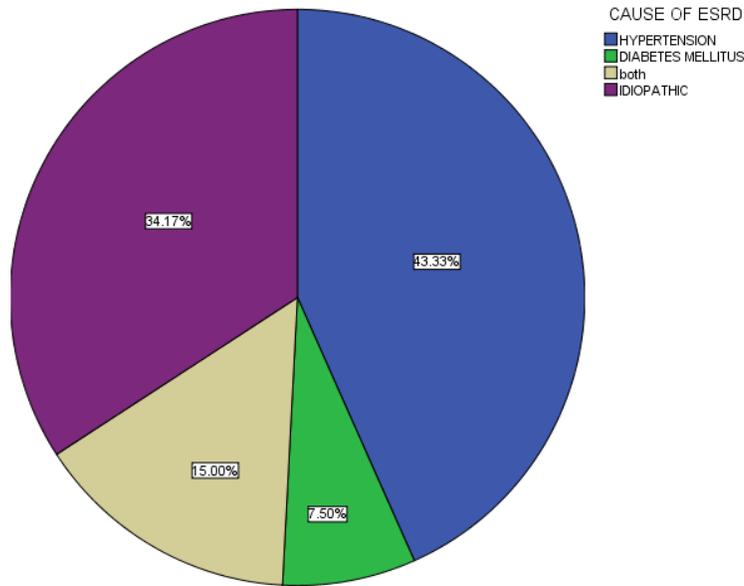


Fig no:1

This study also showed that the 56.7% patient’s initial complaint before diagnosis of ESRD was swelling of the legs and 59.2% had weakness.

This study also showed that there some kind of compromise in the quality of life of ESRD patients as per the KARNOFSKY rating scale that was used for the assessment.

Table no 4: KARNOFSKY Rating Scale

KARNOFSKY Rating(Percent)	Number	Percent
Severely disabled; hospitalization indicated although death not imminent (30)	1	0.8
Requires considerable assistance and frequent medical care (50)	4	3.3
Requires occasional assistance but is able to care most of own needs (60)	31	25.8
Cares for self; unable to carry on normal activity or to do active work (70)	51	42.5
Normal activity with effort; some signs or symptoms of disease (80)	28	23.3
Able to carry on normal activity ;minor signs or symptoms of disease (90)	5	4.2
Total	120	100

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In the study, 30% of the respondents are having their score as less than 70%, which means that they would be needing assistance in their daily normal routine. This is marginally less than the findings done in an epidemiological study at Cordoba, Espana in 2008 which stated that 59.4 % of the respondents had their score below 70% [De Francisco AL, Sanjuan F, ForasterA, Fabado S, Carretero D, Santamaria C, Aguilera J, Alcalá MI, Aljama P (2008)].

The most common symptoms of developing ESRD were swelling of legs (56.7%) and general weakness (59.2%). Most number of respondents has been undergoing dialysis for the past 1-3 years (41.7%) and is having dialysis at least twice per week (93.3%). Expenditure wise, 48.3% of the respondents spend Rs. 1000-5000 on medicines, 69.2% spend Rs.5000- 10,000 per month on dialysis and 48.3% spend Rs.1000-2000 per month on food.

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