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"Assessment of Fatigue and Health Related to Quality of Life among Chronic Kidney Disease Patients Undergoing Haemodialysis Unit at Selected Hospitals of Bagalkot''.

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KEYWORDS

Fatigue scale, quality of life, chronic kidney disease, and haemodialysis.

ABSTRACT:

Background: Fatigue and poor quality of life are commonly problem among chronic kidney disease patients, which usually in proper management of dialysis and also can create serious kidney issues if not treated properly.

Method: The data was collected from 60 patients. By using convenient sample technique data was selected. Fatigue scale was used to assess the level of fatigue & WHO bref-26 Quality of life scale was used to assess quality of life. The comparison of fatigue and quality of life was done using the 'T' test and association was determined using the chi-square test.

Results: Majority (73%) of chronic kidney patients has moderate level of fatigue, (25%) peoples has normal fatigue, and (1.67%) of peoples have sever level of fatigue. Majority (86.6%) chronic kidney disease patients having good quality of life,(13.33%) of peoples have poor quality of life.

Conclusion: A statistically negative correlation exists between fatigue and quality of life among chronic kidney disease patients.

1. Introduction:

The kidneys are bean-shaped organs. The size of the kidney our fist size. Our kidneys filter extra water and remove the wastes from the body. Kidney disease means kidneys are damaged and can't filter blood the way they should.[1]

Major function of the kidneys is to remove waste products and excess fluid from the body. These waste products and excess fluid are removed through the urine. The production of urine involves highly complex steps of excretion and re-absorption. This process is necessary to maintain a stable balance of body chemicals.[2]

The kidneys are performing the following functions. Remove waste from the body, remove drugs from the body, balance the body's fluids, and release hormones that regulate blood pressure.

Chronic kidney disease means that damage the kidneys and decreases their ability of the kidney to keep our healthy by filtering wastes from blood. If changes in the function of the kidney, wastes can accumulate to high levels in blood and make us feel disease.[4] it may develops the complications high blood pressure, anemia (low blood count), weak bones, poor nutritional health, and nerve damage. [4]

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Fatigue is feeling as a lack of energy both physical and emotional. It is different than sleepiness or drowsiness. Normally, fatigue can be reduced after taking rest or reducing activity. Fatigue is a common connected to health issues. Fatigue is symptom and not a specific disease or health problems. Many illnesses cause fatigue, and the symptoms can be physical, psychological, or a combination of both.[5]

According to report of biological research in 2019, fatigue means overwhelming debilitating & sustained exhaustion. That make us very hard to do daily activities and work. The report reveals that 20% of patients fatigue & 35% adolescents feel fatigue at least four days a week.[5]

Both men and women feel fatigue, but differently. Example men's are telling I am feeling tired, but women's feeling of anxiety or depression. People may describe fatigue in different terms, like exhausted, weary, restless.[5]

Everyone may think fatigue is a common symptom—due to aging, being busy or overworked, not getting enough sleep, or a combination of all of these—and ignore the symptom. [5]

Quality of life (QoL) is a broad concept that includes subjective evaluations of both positive and negative aspects of life.[6]

Quality of life meaning if different according to physician, philosophers, scientist and psychologist. According to philosophers "good life", according to psychologist quality of life means human needs and fulfillments of needs. Scientists considerations as objective indicators, subjective view, life goals, needs satisfaction, and components of life.[6]

According to WHO Quality of life as individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.[6]

Although health is one of the important domains of overall quality of life, concept of culture, spirituality, and values are key aspects of overall quality of life that add to the complexity of its measurement.[6]

2.Objectives:

To assess the level of fatigue among hemodialysis patients. To assess the level of Quality of life among hemodialysis patients. To assess the correlation between Quality of life and fatigue among hemodialysis patients. To find out the Association between fatigue and their selected socio demographic variables. To find out the Association between quality of life and their selected Socio demographic.

3.Methods:

The descriptive co-relational study design was adopted for the present study. Convenient sampling technique was used for this study. CKD patients aged below 18 – 60 years & above are the population in the present study.

Study participants:

It consists of all the CKD patients in the age group of below 18- 60 & attending dialysis units of HSK Hospital Navanagar, Patils Medicare, District hospital of Bagalkot.

Setting of the study:

Setting of the physical location and condition in which data was collected the present study was conducted on the assessment of fatigue and quality of life among CKD patients available on dialysis units selected hospitals HSK hospital, Patils medicare and district hospitals of Bagalkot.

Sampling technique:

The researcher fallowed convenient sample method to select the CKD patients in dialysis unit. Hence the investigator selects 60 patients based on sample size.

Sample size estimation:

The sample size was calculated with the formula $N = 4PQ/I^2$, in which P is the prevalence of Fatigue among Hemodialysis patients, Q= 100-P and I is the allowable error (20% of P).

As per the prevalence of fatigue obtained from a previous study,

The P=65, Q =35 and I = 13

Hence, Sample size $N= 4 \times 65 \times 35 / (13)^2 = 53.8$.

So, considering the possibility of missing or attritions in the data, the researchers decided to enroll 10% extra subjects in the sample and the final sample size with round off was 60 patients undergoing Hemodialysis.

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Data collection Instrument:

- Fatigue assessment Scale – It was used to assess the fatigue level among chronic kidney failure patient.
- Quality of life Scale - It was used to assess the quality of life among chronic kidney failure patient.

Translation and reliability of data collection instruments:

The instruments were translated in to Kannada language and retranslated in to English. Similarity between original and translated tool were ascertained by linguistic experts. The reliability of all 2 tools was established by test-retest method. The tools were administered to 60chronic kidney patients' and the same tools were administered to same group with a gap of seven days. Spearman's rank order correlation co-efficient for baseline Performa was R=1. For fatigue assessment scale [r= 0.84] and for quality of life scale [r= 0.81] suggesting all the tools were reliable for conducting the study.

Data collection Procedure:

Data were collected for 30 days from 18\06\2023 to 17\07\2023 at dialysis unit of HSK and Gov district hospital of Bagalkot. The study was conducted among 60 dialysis patients selected from dialysis unit of HSK hospital and research center, and Gov district hospital of Bagalkot. The researcher approached the dialysis clinic of HSK and Gov district hospital, obtained administrative permissions and enrolled all the patients approaching IPD service. The study was explained to prospective participants; their consent was obtained and enrolled. The same procedure of enrolment of subjects was carried out until the required number of subjects was enrolled.

Ethical clearance:

Ethical clearance certificate was obtained from Institutional ethical clearance committee, B.V.V.S Sajjalashree Institute of Nursing sciences, Bagalkot (ref No. BVVSSIONS-IEC/2022-23/304 Dt: 30/05/2023) written consent of participation was obtained from participants before data collection.

Statistical analysis:

The data was analyzed using Microsoft Excel and SPSS version 18. The master sheet was prepared in an Excel sheet after decoding the data. The descriptive analysis was done in Microsoft excel and inferential analysis in SPSS-18. The data was organized and presented using frequency and percentage distribution tables. The results were described with Arithmetic mean, standard deviation and median. The comparison of fatigue and quality of life was done using Correlation test.

4. Results

PART I: - Description of socio-demographic variables of students N=60

Sl. no	Socio-demographic variables	(f)	(%)
1.	Age		
	1. 18 to 30 Years	7	7%
	2. 31 years to 45 years	47	47%
	3. 46 years to 60 years	38	38%
	4. 61 and above	8	8%
2	Gender		
	1. Male	75	75%
	2. female	25	25%
3.	Educational status		
	1. No formal education	14	14%
		5	5%
	2. Primary	60	60%
	3. SSLC	13	13%
	4. PUC	8	8%
	5. Degree and above		
4.	Religion		
	1. Hindu	95	95%
	2. Muslim	5	5%
	3. Christian	0	0
	4. Other	0	0
5.	Occupation status		
	1. Housewife	32	32%
	2. Private employee	11	11%
	3. Government Employee	32	32%
	4. Farmer	18	18%
	5. Business	14	14%
6.	Family monthly income is Rs. ---------- per month.		
	1. Below Rs.10000.	35	35%
	2. 10001 To 15000.	30	30%
	3. 15001 To 20000.	20	20%
	4. 20001 and Above	15	15%
7.	Area of residence		
	1. Urban	55	55%

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	2. Rural	45	45%

Assessment of level of fatigue & quality of life & description of correlation between quality of life and fatigue.

TABLE 1- ASSESSMENT OF LEVEL OF FATIGUE

Level of Fatigue	Number of Frequency	Percentage (%)
Mild	**15**	**25%**
Moderate	**44**	**73.33%**
Sever	**01**	**1.67%**

Majority (73%) of chronic kidney disease patients has moderate level of fatigue, (25%) of Chronic kidney disease patients has normal fatigue, and (1.67%) of Chronic kidney disease patients has sever level of fatigue.

TABLE 2 - ASSESSMENT OF LEVEL OF QUALITY OF LIFE

Level of quality of life	Number of frequency	Percentage (%)
Poor quality of life	**8**	**13.33%**
Good quality of life	**52**	**86.66%**

Majority (86.66%) chronic kidney disease patients having good quality of life, (13.33%) of chronic kidney failure patients having poor quality of life.

CORRELATION BETWEEN THE FATIGUE & QUALITY OF LIFE AMONG CHRONIC KIDNEY PATIENTS.

Significant negative co-relation between the fatigue & quality of life among chronic kidney patients.

As the calculated 'r' value (-0.4092) for the Hypothesis: **H_1**: There will be a negative correlation between fatigue and quality of life among chronic kidney patients.

Hence it is clear that there is a statistically weak negative correlation between fatigue and quality of life among chronic kidney patients. Indicating that there is a negative co-relation between fatigue and quality of life among chronic kidney disease patients. Hence calculated "r" is (-0.4092) there is a negative correlation between fatigue and quality of life among chronic kidney patients. Therefore **H_1**: is accepted.

TABLE 3- Association between quality of life of chronic renal disease patients with their selected socio-demographic variables.

Sl no	socio-demographic variables	Chi-square	P value	Association
1	Age	1.1332	0.287	Not significant
2	Gender	1.090	0.296	Not significant
3	Educational qualification	0.0445	0.832	Not significant
4	Religion	1	0.001	Not significant
5	Occupational	0.0334	0.855	Not Significant
6	Monthly family income	0.0066	0.935	Not significant
7	Area of residence	0.2434	0.621	Not significant

Chi-square and Yates correction was calculated to find out the association between fatigue and quality of life among dialysis patients with their selected socio demographic variables by using contingency table.

Calculated Chi-square value is lesser than table value for all the socio demographic variables Age (x^2=1.133, P=0.287) Gender (x^2=1.090, P=0.296 Educational qualification (χ2= 0.044, P= 0.032), Religion (χ2=1, P= 0.001), monthly family income (χ2=0.006, P=0.935), area of residence (χ2=0.243, P=0.621), occupation (χ2=0.0334, P=0.855), hence calculated chi-square value and Yates correction value is smaller than the table value for all above socio demographic variables, therefore **H_2**: is rejected for all above socio demographic variables.

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Table 4: Association between fatigue and selected socio-demographic variables.

Sl no	socio-demographic variables	Chi-square	P value	Association
1	Age	5.454	0.195	**Significant***
2	Gender	0.0889	0.765	Not significant
3	Educational qualification	0.2778	0.598	Not significant
4	Religion	0.23	0.555	Not significant
5	Occupational	0.277	0.599	Not significant
6	Monthly family income	0.0733	0.935	Not significant
7	Area of residence	0.6061	0.621	Not significant

Chi-square and Yates correction was calculated to find out the association between fatigue and quality of life among dialysis patients with their selected socio demographic variables by using contingency table.

Calculated Chi-square and Yates correction value is lesser than table value for socio demographic variables Age ($\chi 2$= 5.454, P=0.195), Gender ($\chi 2$=0.0889, P=0.765), Educational qualification($\chi 2$= 0.2778, P=0.598), Religion ($\chi 2$=0.23, P=0.55), Occupational ($\chi 2$=0.2778, P=0.59), monthly family income ($\chi 2$=0.0733, P=0.935), area of residence ($\chi 2$=0.6061, P=0.621), calculated Chi-square and Yates correction value is smaller than the table value for socio demographic variables, therefore $\mathbf{H_2}$: is rejected for these socio demographic variables. & Calculated Chi-square calculated value is more than the table value for socio demographic variable Age ($\chi 2$= 5.454, P=0.195), calculated Chi-square value is more than the table value for socio demographic variable of age, therefore $\mathbf{H_2}$: is accepted for age.

5. Discussion

The finding of the present study is supported by the study conducted by Ricardo B et al [7]. Study conducted to evaluate the prevalence of fatigue. The finding reveals that 51.6%. Fatigue was independently associated with lower quality of life in terms of physical and general health. Patients with fatigue had a higher incidence of depression (65.9% vs. 34.1%, P = 0.001) and worse sleep quality (59.1% vs. 49.9%; P = 0.027) than those without fatigue. Present study finding related to level of fatigue Majority (73%) of chronic kidney disease patients has moderate level of fatigue, (25%) of Chronic kidney disease patients has normal fatigue, and (1.67%) of Chronic kidney disease patients has sever level of fatigue.

The finding of the present study is supported by the study conducted by Sharma SK et al [8]. Study conducted to determine the prevalence of fatigue and risk of fall among elderly patients with CKD patients. The finding reveals found that (68%) of the participants were fatigue positive, which was more prevalent in hemodialysis group (82%). Present study finding related to level of fatigue Majority (73%) of chronic kidney disease patients has moderate level of fatigue, (25%) of Chronic kidney disease patients has normal fatigue, and (1.67%) of Chronic kidney disease patients has sever level of fatigue.

The finding of the present study is supported by the study conducted by jhambh M et al [9]. The study was conducted to examine the prevalence and severity of fatigue among non-dialysis-dependent CKD and end-stage renal disease (ESRD) patients, to examine the association of fatigue with subjective and objective sleep quality, The study reveals that score among all participants was 34.5 ± 11.0 (range 5-52). There was no difference in the level of fatigue among CKD and ESRD groups (34.3 ± 11.3 vs. 34.7 ± 10.9; p = 0.73). Present study finding related to level of fatigue Majority (73%) of chronic kidney disease patients has moderate level of fatigue, (25%) of Chronic kidney disease patients has normal fatigue, and (1.67%) of Chronic kidney disease patients has sever level of fatigue.

Conclusion and Recommendation:

Majority (48.3%) of chronic kidney disease patients were in the age group of 31-45 year. (45%) of chronic kidney disease patients were males. (40%) of chronic kidney disease patients have completed SSLC. (95%) of chronic kidney disease patients were Hindu. (31%) of chronic kidney disease patients were farmer. (35%) of chronic kidney disease patients were having

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with income Below 10,000 Rs(55%) of chronic kidney disease patients were from urban area.

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