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Assessment of Quality of Life and Self Efficacy among the Patients Undergoing Heamodialysis in Selected Dialysis Unit of West Bengal

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Abstract: ***Introduction: Haemodialysis is the most common procedure often used to treat patients with advanced and permanent kidney failure. Since the 1960s, haemodialysis became a useful treatment for kidney failure.[1] It has a great impact in life that can cause a severe stress and bring a change of emotional reactions[2]. More specifically, haemodialysis affects the physical and psychological well-being of the patients and their social and economic status, ensuing a large number of patients with psychological distress[3]. Chronic kidney disease is a major public health problem throughout the world. In the last 10 years, it is seen that the prevalence and frequency of CKD has risen steadily by four to eight percent per year throughout the world. It becomes a global threat with significant morbidity and mortality. It decreases patients' overall quality of life (QOL). QOL is used to evaluate the general well being of individuals. It may vary according to the patient as well as the disease condition.[4] The study was mainly aimed at to measure the Quality of Life (QoL) and self efficacy the of patients undergoing heamodyalysis and to find out the relationship between QoL and self efficacy.[5] Methods: In this cross section survey a total of 80 patients attended heamodyalysis unit of Sarat Chandra Chattopadhyay Medical College and Hospital were assigned by convenience sampling technique. The primary outcomes were self efficacy and quality of life of patients who gave consent for participation. The data were collected through WHOQOL-BREF assessment scale and (SEMCD-6) tool which were checked for reliability prior administration of the tool. Results: The result shows that there was a noticeable relationship ($p<0.05$) between QoL and self efficacy (r-value 0.74 and its t-value 8.37*) that indicated that there was a high positive correlation between patient's quality of life and their self-efficacy. Discussion: The assessment of Quality of Life and self efficacy revealed that the majority of the haemodialysis patients had a good perception level about their quality of life. It was observed that variables such as age, gender, education level, annual family income, duration of confirmation of the disease, duration of receiving haemodialysis had no effect on quality of life. The study found that according patient's perception level of self-efficacy, most patients were confident to perform their activity of daily living with only small fraction being very low confident about their self-efficacy. It was found that patients with more education had a better SEMCD-6 score. Findings from this study suggest that with the purpose of improving patients' quality of life, health care professionals need to first identify haemodialysis patients who lack the self-care efficacy required to self-care, and then focus on specific educational interventions to build confidence.***

Keywords: Chronic kidney disease, haemodyalysis, quality of life, self efficacy

1. Introduction

Chronic kidney disease (CKD) represents a significant global public health challenge, with rising incidence and mortality rates, and a current worldwide prevalence of 9.1% [1, 2]. The World Health Organization has forecasted a 14% increase in CKD-related issues by 2030 [3]. The most prevalent treatment for end-stage kidney disease (ESKD) is hemodialysis, with peritoneal dialysis also widely used 4. Patients receiving dialysis often face adverse events that can severely affect their quality of life and impose high costs on healthcare systems [5, 6]. CKD demands ongoing management due to its chronic nature, requiring all healthcare professionals, particularly nurses, to provide crucial care and education. These professionals are essential in helping patients take an active role in managing their condition.[7]

Effective management of CKD largely relies on the patient's ability to manage their health, involving lifestyle adjustments and coping with the various symptoms, medications, and both physical and psycho-social impacts of the disease and its commodities [5]. The concept of patient self-management encompasses five key areas: communication, care partnership, self-care practices, integration of self-care into daily life, and adherence to prescribed treatments [8].

In the context of CKD, self-efficacy is critical for slowing disease progression, with studies showing that higher self-efficacy is linked to improved quality of life and reduced anxiety and depression among CKD patients. Nonetheless, patient behavior in CKD can be influenced by various factors including age, gender, type of dialysis treatment, and the length of time on dialysis.

Objectives of the study:

1) To assess the quality of life among the patients undergoing haemo-dialysis
2) To determine the self efficacy among the patients undergoing haemo-dialysis
3) To find out the association between self efficacy and quality of life.

2. Methodology

Research approach and Research Design:
In order to achieve the objectives of the study, quantitative research approach and a cross sectional survey design was adopted.

Sample: Sample of the study were the patients undergoing haemodialysis attending in general OPD of Sarat Chandra Chattopadhyay Government Medical College and Hospital West Bengal who satisfied the pre-set inclusion and exclusion criteria.

Table: Tools of the study:

S. No	Variables	Tools	Techniques
1.	Demographic variables	Structured Interview schedule	Interviewing
2.	Quality of life	WHOQOL- BREF(WHO)	Intervieing
3.	Self efficacy	SEMCD-6 scale	Intervieing

Procedure of data collection:
After getting permission from all the concerned authorities data collection procedure was done at haemolysis unit of Sarat Chandra Chattapadhyay MCH, Howrah, West Bengal. A total of 80 patients were interviewed who were selected by convenience sampling technique. Purpose of the study was explained to the patients. Informed written consent was obtained from each patient. Privacy was maintained throughout the procedure. A structured demographic proforma was used for collecting the demographic data and interview schedule was used for collecting information related to quality of life and level of self efficacy among patients undergoing haemodialysis.

Ethics committee approval:
The study was approved by institutional ethics committee, Sarat Chandra Chattopadhyay Government MCH, The Medical Superintendent Cum Vice Principal and Head of the department. A written consent was obtained from each and every patient under study. Confidentiality and anonymity were maintained throughout the study period.

3. Results and Discussion

Table 2 provides a comprehensive overview of various demographic and socioeconomic attributes of a certain population. The age distribution shows that individuals aged 55-64 are the most prevalent, making up 57.5% of the population, followed by those aged 45-54 and those over 64, at 35% and 23.75% respectively, while the 35-44 age group comprises 21.25%. Educational attainment varies, with the majority having completed 'Madhyamik' or equivalent (61.25%), followed by those with education up to Class IX (33.75%), high school graduates (32.5%), and a minority of graduates or higher (10%). In terms of occupation, housewives dominate the sample at 95%, with the remainder primarily in service roles (35%) and a small portion classified as other occupations (7.5%). Family income levels are mostly on the lower side, with 65% earning under Rs. 15,000 monthly, and fewer families earning between Rs. 15,001 and Rs. 20,000 (45%) or more than Rs. 20,000 (27.5%). Family size trends towards smaller units, with 58.18% having between 2-4 members and 32.72% having 5-9 members.

Marital status predominantly shows a married majority at 74.55%, with unmarried and widow categories at 7.27% and 9.09% respectively. This data elucidates the population's characteristics, highlighting significant trends in age, education, occupation, income, family size, and marital status, which are crucial for understanding the community structure and needs.
Section I: Findings related to demographic variables.

Table 2: Frequency and percentage distribution of the women according to selected demographic variables in terms of age in years, educational status, occupation, monthly family income, number of family members, marital status, n=80

Demographic Variables	Frequency	Percentage (%)
Age in years		
35–44	11	21.25
45–54	18	35
55–64	36	57.5
> 64	15	23.75
Educational status		
Class I–IX	23	33.75
Madhyamik	34	61.25
HS	16	32.5
Graduate & above	7	10
Occupation		
House wife	56	95
Service	18	35
Others	6	7.5
Monthly family income (Rs.)		
< Rs. 15000	32	65
Rs. 15001–20000	26	45
> Rs. 20000	22	27.5
Number of family members		
2–4	54	58.18
5–9	26	32.72
Marital status		
Married	69	74.55
Unmarried	12	7.27
Widow	9	9.09

Table 3 described, among the patients surveyed, the majority (57.50%) have been suffering from their disease for 6 to 24 months. A smaller percentage, (17.50%) have endured their conditions for 25 to 48 months, (13.75%) for 49 to 60 months, and a further (11.25%) have been suffering for over 60 months.

Regarding the period of hemodialysis treatment, a substantial proportion, (38.75%), have been receiving treatment for 6 to 12 months. Close behind, (32.50%) have been on hemodialysis for 12 to 36 months, (16.25%) for 36 to 60 months, and (12.50%) have been undergoing treatment for more than 60 months. When it comes to underlying diseases, 31.25% of the patients suffer from hypertension only, while a larger percentage, 43.75%, have diabetes only. Additionally, 25% of the patients are dealing with both hypertension and diabetes.

Table 3: Frequency and percentage distribution of the participants according to their duration of confirmation of the disease, duration of receiving haemodialysis, n=80

Demographic-variables	Frequency	Percentage (%)
Duration of disease sufferings (in months)		
6- 24	46	57.50
25- 48	14	17.50
49- 60	11	13.75
>60	09	11.25
Period of Haemodyalysis (in months)		
6- 12	31	38.75
12- 36	26	32.50
36- 60	13	16.25
>60	10	12.50
Underlying Disease		
Only Hypertension	25	31.25
Only Diabetes	35	43.75
Both	20	25.00

The quality of life of the participants was measured using the WHOQOL-BREF tool. The transformed scores ranged from **56 to 109**, indicating a moderate to high understanding of quality of life among the participants.

The **mean score** was **88.18** with a **standard deviation (SD)** of **8.93**, implying a relatively consistent understanding of quality of life over the group with moderate variability. The **median score** was **88.00**, which is very close to the mean, indicating a harmonic distribution of scores. These findings revealed that most participants shared a typically good quality of life with lowest variation among the participants.

Section- III: Findings related to the quality of life of the patients according to obtained score on "WHOQOL- BREF questionnaire

Table 4: Mean, Standard Deviation, Median, Range of transformed score related to Quality of life among participants undergoing heamodyalysis, n=80

Quality of life	Range of Transformed Score	Mean	SD	Median
WHOQOL BRIEF Score	56-109	88.18	8.93	88.00

The self-efficacy of the participants was assessed administering a standardized scale, with **obtained scores ranging from 17 to 42**. The **mean score** was **27.32**, with a **standard deviation (SD)** of **5.95**, reflecting moderate levels of self-efficacy and some level of dispersion among participants.

The **median score** was **27**, which is close to the mean, suggesting a symmetrical distribution of scores **across the participants**. These results shows that most participants reported **moderate self-efficacy**, though having varied individual perceptions.

Table 5: Mean, Standard Deviation, Median, Range of obtained score related to self efficacy among participants undergoing heamodyalysis, n=80

Self efficacy	Range of obtained score	Mean	SD	Median
Self efficacy score	42-17	27.32	5.95	27

The findings of the correlation analysis shows a **strong positive relationship** between **self-efficacy** and **quality of life** among the participants. The **Pearson correlation coefficient** was calculated to be **r = 0.83**, which suggests a high degree of relationship between the two variables. This signifies that as levels of self-efficacy increase, quality of life also shows a tendency to improve significantly.

A **t-test for correlation** was performed to test the significance of this relationship. The test noted a **t-value of 13.02** with **78 degrees of freedom**, which was found to be statistically significant at **p < 0.001**. This proposes that the observed correlation is **not due to chance.**

This result supports the hypothesis that individuals with higher levels of self-efficacy are likely to have good **quality of life**.

Table 6: Mean, Standard Deviation, Pearson correlation coefficient (r), p-value and t value between Quality of life and Self- efficacy among participants undergoing heamodyalysis, n=80

Variables	Mean	SD	r Value	p Value	t (78)
Quality of life	88.18	8.93	0.83	0.01*	13.02*
Self efficacy	27.32	5.95			

SD= Standard Deviation, t(78)=1.99 at 0.05 level of significance.

Development of hypothesis:
There is a strong relationship between Quality of life and self efficacy among participants undergoing haemodyalysis.

4. Conclusion

Haemodyalysis imposes a huge burden on people around the world. This study investigated the relationship between Quality of life and self efficacy among the participants undergoing haemodyalysis. The findings of this study showed that a strong positive correlation between quality of life and self efficacy among participants who were receiving haemodyalysis. More emphasis to be suggested for modifying quality of life to maintain self efficacy among the patients with haemodyalysis.

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