



Original Article

Duration of Hemodialysis and its Impact on Quality of Life

Bushra Akram¹, Hafiz Shafique Ahmad¹, Muhammad Tahsin Akhtar¹, Ahmad Bilal² and Khizra Iqbal¹¹Department of Psychiatry, Nishtar Hospital, Multan, Pakistan²Department of Applied Psychology, Islamia University, Bahawalpur, Pakistan

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*Corresponding Author:

Bushra Akram
Department of Psychiatry, Nishtar Hospital, Multan,
Pakistan
bushra_ch@hotmail.comReceived Date: 26th August, 2023Acceptance Date: 15th October, 2023Published Date: 31st October, 2023

ABSTRACT

One of the main treatments for people with end-stage renal illness is hemodialysis. In managing patients with hemodialysis-dependent chronic kidney disease, quality of life is crucial. **Objective:** To determine duration of hemodialysis and its impact on Quality of Life. **Methods:** A descriptive, correlational research design was used to investigate the quality-of-life patients with hemodialysis. Purposive sampling technique was used in selection of the participants. This study was conducted at the Nishtar Hospital's Renal Dialysis Unit, a teaching hospital affiliated with Nishtar Medical University, Multan. The sample consisted of 50 patients (Male-32, Female-18) on Hemodialysis. World Health Organization Quality of Life BREF (WHOQOL, BREF) Urdu version was administered to assess the quality of life due to hemodialysis treatment. **Results:** Results showed that out of 50 subjects, majority of patients 32 (64%) were Male, 17 (34%) were about 31-40 years age group, 11(22%) were on hemodialysis treatment from 5 years. In quality of life, 38.2% patient's physical domain more affected in 2 years of hemodialysis, 31.4% were affected in psychological domain in less than 03 months, 23.4% affected in social domain after 5 years of dialysis and 39% environmental domain disturbed in 4 years of dialysis. **Conclusions:** It was concluded that Hemodialysis strong effect on quality of life of the patients and its duration and prolonged hemodialysis also impact on patients' social relationships, psychological domain, physical health and environment domain.

INTRODUCTION

Chronic Renal Disease in which less than 60 mL/min/1.73 m² of glomerular filtration rate for minimum three months gradually loss of capacity of the kidneys to excretion of waste and reduction in waste-excreting ability of the kidneys over time [1]. There are two stages treatment for chronic renal failure, Conservative management and Renal Replacement Therapy [2]. Hemodialysis is the kidney replacement therapy that is most routinely administered. Hemodialysis is a therapy option available to people with renal insufficiency that is treated with a machine perform kidney functions such as filtering the blood and excreting waste materials [3]. Hemodialysis is a difficult procedure for patients that requires frequent visits to the hospital or a

dialysis facility, usually three times each week, necessitating significant adjustments to the patients' daily routines [4]. Hemodialysis patients deal with a variety of difficulties in daily life. In addition to mood and the distinction between sickness stressors and treatment stressors, physical manifestations of illness play a significant role in how stressful something is perceived by an individual [5]. The idea of Quality of Life is crucial when assessing the good and negative aspects of a person's and a patient's life. In order to live a good quality of life, one's physical health is crucial. There are numerous elements that affect one's quality of life, such as stress, discomfort, fatigue, and sadness [6]. Serious problems that have a

negative effect on life of patient occur in those with end-stage kidney disease. Some studies looked at quality of life of the patients qualitatively from the family carers' viewpoint, who are the patients' closest friends and relatives [7]. The disease progression is closely monitored by the family carers, who also note changes in the disease, issues with it, and side effects from hemodialysis [8]. Hemodialysis patients find it extremely challenging to costly treatment while simultaneously maintaining a better quality of living. When people with end-stage renal disease already had a very low quality of life, hemodialysis made it even worse. Patients on hemodialysis must also deal with various health-related problems like cardiac illness, gastrointestinal conditions, etc., which also lower their quality of life [9]. People delay getting dialysis until other serious health problems or severe diseases arise because they are unaware of their condition [10]. Dialysis patients frequently experience depression, which is linked to a poor quality of life. End-stage renal illness has developed more prevalent in Pakistan, notably over the past 20 years. Patients in Pakistan must receive lifetime care because of their extreme poverty [11]. Studies showed dialysis patients' quality of life is also negatively impacted by the length of their treatments and this association was found to be statistically significant [12]. When comparing patients with dialysis durations of 1-3 years to those with hemodialysis durations of less than a year, quality of life is often higher in starting years. When patients first begin receiving dialysis, they might initially believe that their kidneys would recover and dialysis will end. However, as time goes on and they continue receiving dialysis, their fears grow and negatively affect their quality of life [13].

METHODS

This study was carried out at the Nishtar Hospital in Multan's Renal Dialysis Unit, a teaching hospital affiliated to Nishtar Medical University. With a team of skilled doctors, nurses, and other paramedical staff, the department provides end-stage renal disease patients with in-patient and out-patient hemodialysis treatment services. Patients registered for hemodialysis in the dialysis unit made up the study's population. 50 patients receiving hemodialysis were included in the sample. A descriptive, correlational research design was used to investigate the quality of life in hemodialysis patients. Purposive sampling technique was used in selection of the participants. Duration of study was from January 1st to January 31st, 2023. The study included all hemodialysis patients who were willing to take part, regardless of age, gender, or the etiology of their renal failure. The study excluded patients with chronic liver

illness, those in a coma, and women who were pregnant. Informed consent was written and obtained from the patients before all the demographic data, which included socio-demographic information including gender, age, location, marital status, level of education, occupation, and length of hemodialysis therapy, was gathered on a Performa that had been pre-designed. Additionally, confidentiality was assured. World Health Organization Quality of Life BREF (WHOQOL-BREF) Urdu version used to assess quality of life [14]. The Statistical Package for Social Sciences (SPSS) version 26.0 was used to analyze the data. Tables were used to display the results.

RESULTS

Table 1 shows demographic details of patients. Out of 50 subjects, the majority of patients 32 (64%) were Male, 17 (34%) were about 31-40 years age group, 26 (52%) belonged to rural area, 37 (74%) were married and 32 (64%) were unemployed.

Table 1: Demographic Details (N=50)

Demographic Details	Frequency (%)
Gender	
Male	32 (64)
Female	18 (36)
Age	
15-20	3 (6)
21-30	11 (22)
31-40	17 (34)
41-50	13 (26)
51-60	4 (8)
61-70	2 (4)
Locality	
Rural	26 (52)
Urban	24 (48)
Marital status	
Single	5 (10)
Married	37 (74)
Divorced	3 (6)
Widow / Widower	5 (10)
Education	
Uneducated	21 (42)
Primary	6 (12)
Middle	7 (14)
Matric	5 (10)
F.A	5 (10)
B.A	2 (4)
M.A	2 (4)
MBA	2 (4)
Occupation	
Unemployed	32 (64)
House wife	14 (28)
Students	4 (8)

Table 2 shows duration of Hemodialysis. Out of 50 patients 11 (22%) were on hemodialysis treatment from 5 years.

Table 2: Duration of Hemodialysis

Years	Frequency (%)
Less than 3 Months	5(10)
1 Year	7(14)
2 Years	9(18)
3 Years	4(8)
4 Years	3(6)
5 Years	11(22)
6 Years	2(4)
8 Years	3(6)
12 Years	1(2)
14 Years	1(2)
15 Years	4(8)

Table 3 shows 04 Domains of quality of life in Hemodialysis patients with duration of hemodialysis. In which 38.2% patient's physical domain more affected in 2 years of hemodialysis, 31.4% were affected in psychological domain in less than 03 months, 23.4% affected in social domain after 5 years of dialysis and 39% environmental domain disturbed in 4 years of dialysis.

Table 3: Quality of Life Domains of Patients on Hemodialysis

Domains	Duration	Percentage
Physical Health	2 Years	38.2%
Psychological	Less than 3 Months	31.4%
Social Relationships	5 Years	23.4%
Environment	4 Years	39%

DISCUSSION

Stress in daily life frequently manifests as tension, anxiety, concern, and mental strain. Patients undergoing hemodialysis for renal failure must deal with a variety of potential hardships and lifestyle modifications [15]. Rest and dietary restrictions may be all that a patient needs in the early stages of renal failure and dialysis, but when the disease progresses or becomes chronic, the patient may not be physically able to resume work or be employed, due to ongoing inpatient or outpatient treatment [16]. His/her employment may be eliminated or his/her hours reduced during this time, which will have an impact on the entire family, especially if the patient is the primary provider of income. Most of the hemodialysis patients in our study had a better quality of life [17]. In our research, 64% were Males & 36% were females presenting with hemodialysis. This was in concordance with another research in which 57.2% were male & 28.1% were female patients [5], other researchers reported female and male ratio respectively 59%-41% [18], 53% male and 47% female [2]. In this study, majority patients 34% were presented with hemodialysis at 31-40 years & 26% were from 41-50 years age group. This is in accordance with observation of other studies in which 12% from 40-49 years, 30.1% from 50-59 years of age [19], 36% were from 35-60 years [18]. In this study, 52% belonged to rural area, 74% married, 42% uneducated &

64% unemployed. The various other researchers also reported. These researches suggested, 68.4% married, 57.4% were from rural area [19], 41.1% from rural area [13], 50.3% married [5], 10% [18], 28.8% were uneducated [18]. Present study also revealed, quality of life effect patients with hemodialysis. In this study, results showed strong relationship between hemodialysis poor quality of life especially with duration of illness, such as 22% of the patients were on dialysis from five years, 18% from two years and 14% patients on hemodialysis from one year. Other researches result's sowed, 8% less than 3 years, 28% 3 to 5 years [11], from one to 12 years, with a median of five years [2] and 165 patients were on hemodialysis for less than 36 months while 81 had a longer duration of dialysis [13]. Hemodialysis patients run the risk of having a low quality of life. The findings of the present study indicated that the majority of patients had a very low quality of life. In this study, quality of life effected in hemodialysis patients, also as duration increased. In quality-of-life results, 38.2% patient's physical domain more affected in 2 years of hemodialysis, 31.4% were affected in psychological domain in less than 03 months, 23.4% affected in social domain after 5 years of dialysis and 39% environmental domain disturbed in 4 years of dialysis. In other researches, one study found that 13% respondents were satisfied with their Quality of Life, compared to 43% subjects who were dissatisfied. The remaining 44% participants gave neither low nor good ratings [18]. In one more study, 34.5% had a good quality of life. The results for patients on dialysis for less than three years and more than three years were for overall average quality of life [13]. Lower ratings for symptoms and physical role constraints were seen in patients who had hemodialysis for more than three years, however higher scores for disease burden, illness influence on life, physical pain, and mental health were seen as hemodialysis duration rose [20]. One study result showed the psychological domain 17.27%, physical domain 21.44%, environmental domain 10.4% and social domains 23.49% [11]. As duration of dialysis increase, the reduction in quality of life. Due to several physical, psychological, environmental and social people with chronic kidney disease on hemodialysis have a difficult time maintaining or returning to their jobs. This reality helps create a vicious cycle of tension, worry, despair, and the feeling that they are a burden to their families. Social support from partners, families, friends, coworkers, or the community is strongly correlated with a higher quality of life [19]. This was different from the past research that indicated that hemodialysis patients had a lower quality of life. This variation or difference may be the result of several population, environmental, financial, cultural and nutritional factors and poor health facilities.

CONCLUSIONS

People in Pakistan already struggle with a great deal of health-related concerns, particularly with significant, chronic illnesses like chronic renal failure, for which patients often lack the financial means to pay for expensive, lifelong treatments like hemodialysis. Quality of life poorer mostly in this chronic and severe illness and over time, also as a result of hemodialysis. According to the study's findings, the majority of patients' quality of life is significantly impacted by hemodialysis and its duration and prolonged hemodialysis also impact on patients' physical health, social relationships, psychological domain and environment domain.

Authors Contribution

Conceptualization: BA

Methodology: KI

Formal analysis: KI

Writing-review and editing: HSA, MTA, AB

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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