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Assessment of Female Patients Burden undergoing Hemodialysis at Shar Teaching Hospital in Sulaymaniyah City

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ABSTRACT

Background: Hemodialysis patients with chronic kidney failure end-stage renal disease (ESRD) will encounter various pressures, functional limitations, dietary restrictions, pharmaceutical side effects, workplace challenges, as well as social and dynamic changes. Health problems and a lower quality of life, in general, can arise from the roles that gender stereotypes and sex discrimination impose. Within this research, we sought to determine the burden of female hemodialysis patients in Sulaymaniyah City and to examine the impact of several sociodemographic parameters on this burden. **Materials and Methods**: A cross-sectional quantitative design, a convenient selection of 53 female patients with ESRD receiving hemodialysis was comprised. The study was carried out at the Shar Teaching Hospital's dialysis department in Sulaymaniyah City. **Results:** The study participants' mean age was determined to be 55.8 ± 14.6 years, with the majority (41.0%), falling between the age range of 41 and 80 years. 100% of the research sample reported feeling fatigued. The results indicate that there were significant associations found between age groups (P = 0.030), level of education, marital status, and the assessment of female patients' burden of undergoing hemodialysis. The majority of participants (41.5%) had low assessments of female patients' burden. **Conclusion:** Most of the instances involved illiterate housewives who had been on hemodialysis for longer than 10 years. Most research samples exhibited lower energy levels, and almost all patients complained of being fatigued. The assessment of the burden of female patients receiving hemodialysis showed positive correlations with age groups, educational attainment, and marital status. Otherwise, no correlation was observed between the patients' work, place of residence, length of hemodialysis treatment, and the overall estimate of the burden experienced by female patients.

Index Terms: Assessment, Burden, Hemodialysis, Shar hospital

1. INTRODUCTION

Chronic kidney disease is one of the main issues facing public health. Severe and irreversible renal dysfunction characterizes chronic renal failure, which makes it impossible for the body to maintain proper fluid, electrolyte, and metabolic balance [1].

A major worldwide health concern that affects 10% of the world's population is chronic renal disease. More than 2 million people have dialysis to treat renal failure worldwide in the year 2020 [2]. The method of supplying blood extracted from a patient through vascular access by adjusting the fluid, electrolyte, and waste material content in an external machine is known as hemodialysis [3].

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Hemodialysis patients may have a significant symptom load, accounting for 92% of cases. Distressing symptoms include exhaustion, appetite loss, difficulty concentrating, hand and foot edema, and muscular cramping can all have a severe impact on a patient's quality of life and create daily anguish [4].

Hemodialysis therapy is costly, time-consuming, and necessitates dietary and hydration restrictions. Long-term dialysis therapy also requires hemodialysis 2 or 3 times a week, which can negatively affect caregivers by causing them to lose their independence, disrupt their social lives and marriages, and have their financial situation worsen. All of these factors can cause major disruptions to the lives of patients and their families [1].

The burden of chronic renal failure is demonstrated by the numerous and progressive metabolic, hormonal, and mental abnormalities that patients experience as their renal illnesses are near the terminal stage. Early on in the progression of renal failure, anemia and hyperparathyroidism are observed. Severe and accelerated vascular disease is the primary cause of morbidity and death in this patient population [5].

Males are more adept at hemodialysis than females. A significant percentage of women with long-term dialysis do not engage in sexual activity. Hyperprolactinemia is often observed in patients with end-stage renal disease (ESRD), and disturbance of the hypothalamic-pituitary axis has been associated with reduced testosterone levels. Menstrual abnormalities, anovulation, and infertility are prevalent in female end-stage renal failure patients. Therefore, the purpose of this study was to assess the burden of female patients receiving hemodialysis.

2. MATERIALS AND METHODS

2.1. Design

A quantitative study using a descriptive, retrospective, cross-sectional methodology was carried out in Sulaimani to evaluate the burden of female patients receiving hemodialysis. The data were gathered retrospectively from the dialysis department of the Shar Teaching Hospital in Sulaimani City between September 01, 2022, and March 01, 2023.

2.2. Study Sample

Hemodialysis patients in their last stages of renal disease comprised a convenient sample of 53 female patients. The study was carried out from the Sulaimani City dialysis unit of the Shar Teaching Hospital.

2.3. Inclusion and Exclusion Criteria

Female patients older than 20 years old who are receiving hemodialysis and have ESRD with their permission enrolled in the study. While male peritoneal dialysis patients, acute renal insufficiency, pregnant, and recipient of a kidney transplant were excluded from the study.

2.4. Data Tools

Closed-ended questions based on a review of the literature, three-part structured questionnaires were developed and used to examine the following variables: The first part included sociodemographic information, the second contained complaints pertaining to hemodialysis, and the third part asked questions regarding the burden of hemodialysis patients.

2.5. Validity

A panel of six professionals in the fields of nursing and medicine examined the questionnaire's items to ensure its sufficiency and clarity before determining its validity.

2.6. Pilot Study

Ten patients from the hemodialysis unit at Shar Hospital participated in a pilot study that was designed to assess the questionnaire's reliability, validate the items' clarity, and calculate the typical time needed to collect data.

2.7. Rating Scales and Score

To rank and score the items, the following patterns were applied: The burden ranges are categorized into three groups: Low, medium, and high. To rank and score the items, the following patterns were applied: Formatted in three points A Likert scale was used to score the knowledge item: Yes (3), No (1), and Not sure (2).

2.8. Data Analysis

Computer files were created by organizing and coding the data. Utilizing the Statistical Package for the Social Sciences version (22) (SPSS), the analysis of the data was carried out through; frequency, percentage, mean, standard deviation, minimum, maximum, and range are examples of descriptive statistics. Fisher Exact Test, Chi-square, *P*-value, and correlation test are examples of inferential statistics.

($P < 0.01$) = highly significant, ($P < 0.05$) = significant, or ($P > 0.05$) = non-significant.

3. RESULTS

Table 1 presents a distribution of sociodemographic variables. Fifty-three female patients completed the questionnaire. The

study participants' mean age was determined to be 55.8 ± 14.6 years, with the majority (41.0%) falling between the age range of 41 and 80 years. The "Educational level" metric reveals that 60.4% of the investigated respondents had no prior educational history, making them illiterate. In terms of occupation, 84.9% of the respondents identified as housewives. In terms of marital status, married respondents made up the bulk of the sample (90.6%). The largest proportion of participants' residents (60.4%) was urban dwellers.

TABLE 1: Sociodemographic characteristic of the study sample

Sociodemographic characteristic	Frequency	%
Age (years)		
20–40 years	9	17.0
41–60 years	22	41.5
61–80 years	22	41.5
Mean±SD 55.8±14.6		
Levels of education		
Illiterate	32	60.4
Able to read and write	4	7.5
Primary school	8	15.1
Secondary school	9	17.0
Occupation		
Employed Governmental	2	3.8
Student	1	1.9
Housewife	45	84.9
Unemployed	4	7.5
Retired	1	1.9
Marital status		
Single	4	7.5
Married	48	90.6
widowed	1	1.9
Residency		
Urban	38	71.7
Suburban	15	28.3
Duration on hemodialysis (year)		
<1	3	5.7
1–5	9	17.0
6–10	9	17.0
>10	32	60.4
Total	53	100

Table 2 displays the distribution of complaints related to hemodialysis among female patients. Of the study sample, the largest percentage (100%) reported fatigue, followed by decreased energy levels and weight change (98.1%), sleep disturbance (88.1%), and blurred vision (88.1%). The study's lowest percentage of participants (5.7%) reported having social life problems.

The overall evaluation of the load on female patients receiving hemodialysis is displayed in (Table 3). The majority of participants (41.5%) had low assessments of the burden experienced by female patients undergoing hemodialysis, followed by those with high assessments (37.7%) and moderate assessments (20.8%) of the burden experienced by female patients undergoing hemodialysis.

The relationship between sociodemographic traits and the overall assessment of the burden of female patients receiving hemodialysis is shown in (Table 4). The results indicate that when assessing the burden of female patients receiving hemodialysis, age groups, levels of education, and marital status were related to statistically significant relationships. Furthermore, the results indicate that there was no statistically significant correlation observed between the patients' occupation, residency, length of hemodialysis treatment, and the overall assessment of the burden of female patients undergoing the treatment.

TABLE 2: Distribution of complaints about hemodialysis among female study participants

Hemodialysis related complains	Present		Absent		Mean of score	Severity
	F.	%	F.	%		
Fatigue	53	100.0	0	0.0	1.00	Low
Sleep disturbances	45	84.9	8	15.1	1.15	Low
Dysuria	23	43.4	30	56.6	1.56	Moderate
Weight change	50	94.3	3	5.7	2.52	Sever
Problems in work life	47	88.7	6	11.3	1.11	Low
Decreased energy levels	52	98.1	1	1.9	1.01	Low
Hypoglycemic symptoms	21	39.6	32	60.4	1.60	Moderate
Tingling sensation/numbness	38	71.7	15	28.3	1.28	Low
Blurred vision	43	81.1	10	18.9	1.18	Low
Problems in social life	3	5.7	50	94.3	1.94	Sever
Difficulty in walking	43	81.1	10	18.9	1.18	Low
Swelling of limbs	29	54.7	24	45.3	1.45	Moderate
Pain in limbs	42	79.2	11	20.8	1.20	Low
Mean±SD			18.2±1.65			

4. DISCUSSION OF THE RESULTS

Fifty-three female patients burdened with hemodialysis were taking part in the research overall. Patients with obvious hemodyliasis frequently experience several physical, emotional, and social issues that significantly affect their health and burden their lives. Women's issues are frequently distinct from men's issues [6]. The current study investigates the health issues of female patients receiving HD maintenance phase. The majority of research participants view HD as an unpleasant treatment since it can cause several issues that negatively influence their quality of life. They are frequently compelled to make sacrifices in their social and familial lives [7].

TABLE 3: Overall assessment of female patient's burden undergoing hemodialysis of the study sample

Overall assessment of female patient's burden undergoing hemodialysis	*n*=53	
	F	%
Low	22	41.5
Moderate	11	20.8
High	20	37.7

The age group under investigation in this study had a mean of (Mean±SD 55.8±14.6), and 41% of the patients fell into the 40–80 year age range. Similar to Ibrahim *et al*.'s study from 2023 [8], the majority of patients' ages were over 41 age range, which was 89.4% and above in the research. Karasneh *et al*." Alaryni *et al*. discovered that the majority of participants were normally between the ages of 31 and 50. In contrast, a cross-sectional study conducted at 13 hospitals indicated that the mean (±SD) age of participants was 50.9±16.1 years [9], [10].

TABLE 4: Association between sociodemographic characteristics and overall assessment of female patient's burden undergoing hemodialysis

Variables	n=53						Total	
	Low		Moderate		High			
	F	%	F	%	F	%	F	%
Age groups								
20–40 years	2	22.2	2	22.2	5	55.0	9	17.0
41–60 years	7	31.8	2	9.1	13	59.1	22	41.5
61–80 years	13	59.1	7	31.8	2	9.1	22	41.5
P=0.007, Significant, χ^2=13.891								
Education levels								
Illiterate	15	46.9	8	25.0	9	28.1	32	60.4
Able to read and write	2	50.0	1	25.0	1	25.0	4	7.5
Primary school	3	37.5	1	12.5	4	50.0	8	15.1
Secondary school	2	22.2	1	11.1	6	66.7	9	17.0
P=0.009, Significant, χ^2=5.378								
Occupation								
Employed Governmental	0	0	0	0	2	100	2	3.8
Student	0	0	0	0	1	100	1	1.9
Housewife	21	46.7	10	22.2	14	31.1	45	84.9
Unemployed	1	25.0	1	25.0	2	50.0	4	7.5
Retired	0	0	0	0	1	5.0	1	1.9
P=0.480, Not significant, χ^2=7.915								
Marital status								
Single	0	0	1	25.0	3	75.0	4	7.5
Married	21	43.8	10	20.8	17	35.4	48	90.6
Widowed	1	100	0	0	0	0	1	1.9
P=0.030, Significant, χ^2=4.703								
Residency								
Urban	15	38.5	9	23.7	14	36.8	38	71.7
Suburban	7	46.7	2	13.3	6	40.0	15	28.3
P=0.793, Not significant, χ^2=0.718								
Duration on hemodialysis (year)								
<1	0	0	0	0	3	100	3	5.7
1–5	1	11.1	2	22.2	6	66.7	9	17.0
6–10	6	66.7	2	22.2	1	11.1	9	17.0
>10	15	46.9	7	21.9	10	31.3	32	60.3
P=0.041, Significant, χ^2=12.629								

Sixty-four percent of the samples in this study were illiterate. In contrast, a survey conducted in 2022 by Aini *et al*. reveals that 84% of the participants had only completed elementary school [11].

According to the current study, 53% of patients' complaints were related to weariness. On the other hand, the research Karasneh *et al*., 2020" [9]. According to a cross-sectional study conducted at 13 hospitals, muscle strain affects 62.6% of participants. Similar to this study, Almutary *et al*. found that 77% of the sample study participants complained of being tired [12]. Furthermore, it is evident from Song *et al*.'s 2020 study correlates of symptom burden of hemodialysis patients that 75% of the patients reported feeling exhausted or lacking energy [13].

In our study, the majority of patients had been receiving hemodialysis for longer than 10 years (60.4%). In comparison, a 2016 study by Almutary *et al*. discovered that 34.3% of patients had been receiving hemodialysis for 1.1–5 years [12]. Furthermore, only six participants in the study George *et al*. 2023 had been receiving HD for longer than 6 years [14].

The overall burden of female patients receiving hemodialysis was assessed in our study. 22 (41.5%) of the participants had low assessments of the burden experienced by female patients receiving hemodialysis, compared to 20 (37.7%) who had high assessments. Eleven (20.8%) participants had moderate assessments of the burden experienced by female patients receiving hemodialysis. The study conducted by Song *et al*. on the correlates of symptom burden of hemodialysis patients has generated controversy. The study found that the participants' total scores of symptom burden ranged from 21 to 139, with a mean score of 74.12 (SD = 21.51). The patients' reported symptom counts varied from 4 to 24, with a mean of 12 [13].

In contrast to our study, which found a mean score and SD of 18.2 ± 1.65, Song *et al*. report that the participants' mean score of symptom load was 74.12, with a mean number of 12 symptoms. These results might be explained by the fact that Song *et al*.'s instrument only assesses the intensity of 10 symptoms. It is evident that hemodialysis patients have a high symptom burden and suffer several symptoms at once, despite the different diagnostic measures utilized. The three most common symptoms in our study were dry skin, itching, and fatigue or loss of energy, which is consistent with the results of other investigations [13].

5. CONCLUSION

The majority of cases involved housewives with illiteracy who had been receiving hemodialysis for more than 10 years. Most research samples exhibited lower energy levels, and almost all patients complained of being fatigued. The assessment of the burden of female patients receiving hemodialysis showed positive correlations with age groups, educational attainment, and marital status. Otherwise, no correlation was observed between the patients' work, place of residence, length of hemodialysis treatment, and the overall estimate of the burden experienced by female patients.

6. ETHICAL CONSIDERATIONS

The University of Sulaymaniyah/College of Nursing, the College of Medicine's ethical agreement, the Shar Teaching Hospital's official directory of health, and approval letters were received to conduct the study. In addition, participants' freely given verbal consent was collected.

8. CONFLICT OF INTEREST

The authors affirm that they have no conflicts of interest.

9. FUNDING

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