Power System Technology
ISSN:1000-3673

Received: 16-09-2024 Revised: 05-10-2024 Accepted: 02-11-2024

Stressors and Coping Strategies among Patients Undergoing Hemodialysis in Makkah City, Saudi Arabia

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Abstract:

Background: Background: Stress is frequently associated with anxiety, tension, worry, and strain in human existence. The patient may be unable to physically manage as the disease advances, even though chronic renal failure is threatened by numerous potential losses and lifestyle adjustments. Various coping mechanisms are employed by HD patients to manage the stresses associated with their illness and treatment.

Aime: to evaluate the relationship between the stressors and the coping strategies employed by patients undergoing hemodialysis treatment, as well as the level of stress and coping strategies.

Methods: descriptive cross-sectional study design. The research used a straightforward sampling method and a 120-person sample size. The investigation was carried out at Makkah's Hemodialysis Center.

Power System Technology
ISSN:1000-3673

Received: 16-09-2024 Revised: 05-10-2024 Accepted: 02-11-2024

Results: Nearly all hemodialysis patients (about 97%) reported high stress levels. Half of hemodialysis patients constantly use problem- or emotion-oriented coping mechanisms, while 90% of patients occasionally use avoidance-oriented coping mechanisms. As a coping mechanism, seeking help and engaging in secluded thoughts are employed by the remaining 56% on occasion.

Conclusion and implications for nursing and health policy: According to the overall assessment, the individuals incur significant stress due to the surgery. It would be ideal if coping mechanisms and treatments could be adjusted. When it comes to helping hemodialysis patients cope with stress, nurses are invaluable resources. Nursing administration should prioritize training and resources for these patients, while nursing education should increase understanding of the stresses these patients endure. More study in this area is needed to find ways to make patients feel better as they get better care. The goals of future research should be to confirm these results and to evaluate the efficacy of treatments.

Keywords: Stressors, Coping Strategies, Hemodialysis

1. INTRODUCTION

Patients of Chronic Kidney Disease (CKD) face significant alteration in their psychological and physical health because of Hemodialysis. While hemodialysis is a life-sustaining measure, it is also associated with adverse effects on the patient's quality of life, including imposed dietary restrictions and significant changes in one's lifestyle. In Saudi Arabia, stress among people with End Stage Renal Disease (ESRD) has been caused by the limited availability of kidney donations. (Alsaeed et al (2024) identify this stress with Their health, interpersonal relationships, financial matters, and daily limitations. There is an urgent need to reduce these stressors to avoid premature death and reduction in morbidity. Investigations of stress management point out that personal history, beliefs, available support, and resources are all crucial in the management of end-stage renal disease in hemodialysis patients. Alghamdi and Alonazi (2024) point out that the management of stress requires a broad understanding of the problem as well as focused strategies. Understanding the link between stress and coping is essential for providing effective support to hemodialysis patients, as high stress levels can impact health and treatment management. By implementing effective coping strategies, patients can improve their emotional well-being and overall quality of life (Chadban et al., 2024). Recognizing patient stressors and coping strategies is key to managing disease-related stress and enhancing patient rehabilitation, ultimately improving survival rates, and reducing costs(Mima et al., 2024). Ongoing research in Saudi Arabia aims to fill the gap in understanding stress and coping among hemodialysis patients, providing valuable insights for healthcare professionals to promote treatment adherence and better patient care.

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ISSN:1000-3673
Received: 16-09-2024 Revised: 05-10-2024 Accepted: 02-11-2024

2. METHODS

Research design: A descriptive analytical design was used in this study by using Hemodialysis Medical (STROBE) guidelines.

Setting and sampling: The population of this study was ESRD patients who underwent hemodialysis at the Hemodialysis Center in Makkah City between (July 15 and September 15, 2024). 120 patients were selected and estimated according to the central department statistic sample calculated website with a 5% margin of error, 95% confidence level, and 90% estimated response rate.

Inclusion criteria: The patient was diagnosed with ESKD, who underwent hemodialysis for more than six months, aged between 20-60 years, of both sexes, and a client who did not have a mental disorder, hepatitis B, C, HIV, or AIDS.

Instrument:

Two tools used by the researcher based on a literature review

Tool I: Demographic and Clinical Data. included such as (Gender, age, and duration).

Tool II consisted of two scales adapted to measure stressors and coping strategies among hemodialysis patients. They are:

Part I: The Hemodialysis Stressor Scale (HSS), measures used to assess the level of stress experienced by hemodialysis patients (Saboor & Malik, 2024). It consists of 32 items that describe the stressors that hemodialysis patients face in their lives. The 32-item scale is grouped into two stressors scales: psychosocial (25-item) stressors and physiological (7-item) stressors Part II: Jalowiec Coping Scale (JCS): The JCS tool consists of 60 items. The items were rated on a 4-point Likert scale ranging from (1-4) with higher scores indicating a very extreme affected of stress experienced (Akpor et al., 2024).

Greater scores indicate very Extremely affected use and perceived helpfulness of coping strategies ((Doan et al., 2024)). The physiological scale consists of (10 items), Evasive (13items), optimistic (9 items), Fatalistic (4 items), emotive (5 items), palliative (7 items), Supporting (5 items), and self-reliant (7 items). The coping helpfulness consists of 65 items the higher score means the patients are coping with stressors. Finally, the English questionnaire was expertly translated into Arabic and back to English without changes. Hard copies were distributed to the patients for a study on its internal consistency, showing excellent reliability with a Cronbach's alpha of 0.949.

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Data collection

After obtaining ethical approval from the Institutional Review Board Opinion Letter. Data collection was conducted by all authors. they visited the HD center at various times to identify clients meeting inclusion criteria with a meeting with the center director and head nurse to discuss the purpose and data collection methods. Participants were randomly selected and interviewed, with the data entered into the Qualtrics (2024) program for efficient analysis.

Ethical considerations

Official permission was obtained from the Institutional Review Board Opinion Letter, Makkah Region to commence data collection and initiate data collection. A written Consent Form was obtained from the participants and confidentiality and anonymity were assured.

Data analysis

In this present study, the data analysis was conducted in the demographic area. The demographic variables analysis compares with the stressor variables to identify any potential relationships. The following analysis is used by the authors: The central tendency measures and dispersion, containing arithmetic standard deviation and mean, were used for descriptive statistics. Independent sample T-test was used to test the relationships between variables. One-way analysis of variance (one-way ANOVA) was used. The data were entered into a Microsoft Excel spreadsheet and double-checked by the authors. Then, the data were converted for analysis using SPSS software (version 29).

3. RESULTS

Table (1) Illustrates that the majority of hemodialysis patients (64.2%) were male, while 36.7% were in the age groups of 40-49 and 50-65 years old. Regarding the duration of treatment, 43.3% of patients had been undergoing dialysis for less than 3 years, while 8.3% had been receiving treatment for 6-8 years. In terms of stress factors, most patients (66.1%) reported a mild effect of stress, with "Loss of body function" and "Feeling tired" being the most troublesome physiological stressors. Psychologically, "Limits on time and place for vacation" was the most distressing stressor, followed by "Decrease in sexual desire," while "Dependency on nurses and technicians" had a mild effect. Table (2) demonstrates that coping strategies in hemodialysis patients found that optimism (77.2%), supportive coping (74.3%), and fatalistic coping (71.3%) are the most common effect and effective strategies. Prayer (94.8%) and maintaining a normal life (90.0%) are frequently used, while impulsive or risky actions (22.9%) are less effective. Confronted coping (extremely affected 80.5%, moderately affected 55.8%) and evasive coping (extremely affected 88.5%, moderately affected 41%) have a significant negative impact on patients, while optimistic (mildly affected 77.2%), fatalistic (mildly affected

Power System Technology
ISSN:1000-3673
Received: 16-09-2024 Revised: 05-10-2024 Accepted: 02-11-2024

71.3%), emotive (moderately affect 53.5%), palliative (moderately affected 56.8%), and support coping (mildly affected 74.3%) styles have moderate or mild effects. These findings highlight the importance of addressing coping strategies in hemodialysis patients to improve their overall well-being and quality of life. Table (3) Shows the relationship between coping Helpfulness strategies and demographic data in hemodialysis patients and found that prayer and trust in God (95.6%) were the most helpful coping strategies, while worry (33.0%) was the least helpful. Although demographic characteristics like gender and age did not significantly influence overall stress levels, the duration of treatment was found to be a factor, with longer duration (6-8 years) associated with lower stress levels compared to shorter duration (3-5 years). These findings emphasize the importance of addressing coping strategies in hemodialysis patients to improve their well-being.

Table (1): Distribution of frequency and percentage of Demographic, physical, and psychological stressors among patients undergoing Hemodialysis

	Variables	Demographic Data	No =120	(%) =100
1. 1.	Gender	Male	77	64.2
		Female	43	35.8
2	AGE	18 -30 years	16	13.3
		31 to 39 years	16	13.3
		40 to 49 years	44	36.7
		50 years to 65 years	44	36.7
3	Duration of treatment	less than 3 years	52	43.3
		3 to 5 years	45	37.5
		6 to 8 years	10	8.3
		9 years and more	13	10.8

No	Items	Mean	SD	Percentage (%)	Affects
Physiological Scale					
1.	Feeling tired	3.042	1.00334	76.1	Mild
2.	Loss of body function	3.0252	1.06136	75.6	Mild

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ISSN:1000-3673
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3.	Muscle cramps/soreness	2.6833	1.09224	67.1	Mild
4.	Nausea and vomiting	2.5667	1.21429	64.2	Mild
5.	Stiffening of joints	2.4958	1.14147	62.4	Mild
6.	Itching	2.4083	1.22643	60.2	Mild
7.	Arterial & venous stick	2.3277	1.06651	58.2	Moderate
Total Physiological Scale		2.6552	0.66529	66.4	Mild
Psychological Stressors Scale					
1.	Limits on time and place for vacation	3.3667	1.10715	84.2	Very Extremely Affect
2.	Decrease in sexual derive	3.2906	0.94741	82.3	Very Extremely Affect
3.	Limitation of food	3.084	0.95296	77.1	Mild affect
4.	Transportation to and from the unit	3.05	1.20817	76.3	Mild affect
5.	Decreased ability to have children	3.036	1.10312	75.9	Mild affect

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6.	Length of treatment	2.9286	1.168	73.2	Mild affect
7.	Interference with job	2.8889	1.22318	72.2	Mild affect
8.	Limitation of physical activity	2.7667	1.10563	69.2	Mild affect
9.	Limitation of fluid	2.7563	1.25527	68.9	Mild affect
10.	Uncertainty about the future	2.7	1.20643	67.5	Mild affect
11.	Feelings related to treatments example;(feeling cold)	2.7	1.14202	67.5	Mild affect
12.	Decrease in social life	2.6667	1.11772	66.7	Mild affect
13.	Cost of treatment /transportation to treatment /or other cost factors	2.6471	0.97066	66.2	Mild affect
14.	Sleep disturbances	2.625	1.09285	65.6	Mild affect
15.	Limited in style of clothing	2.5917	1.28662	64.8	Mild affect

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16.	Fear of being alone	2.5085	1.1821	62.7	Mild affect
17.	Frequent hospital admission	2.5	1.15285	62.5	Mild affect
18.	Changes in family responsibilities	2.395	1.21585	59.9	Moderate affect
19.	Reversal in family roles with the children	2.3417	1.23326	58.5	Moderate affect
20.	Boredom	2.2167	1.35463	55.4	Moderate affect
21.	Changes in body appearance	2.1583	1.223	54	Moderate affect
22.	Reversal in family role with spouse	2.0684	1.22985	51.7	Moderate affect
23.	Dependency on physicians	1.9083	1.11518	47.7	Moderate affect
24.	Dialysis machine and /or equipment	1.8487	1.17631	46.2	Moderate affect
25.	Dependency on nurses and technicians	1.8	1.1272	45	Moderate affect
Total Mean for Psychological Stressors Scale		2.625	**0.48822**	65.6	Mild affect

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No	Items	Mean	SD	Percentage (%)	Affects
Physiological Scale					
1.	Tried to keep the situation under control	3.2185	0.81469	80.5	Extremely affected
2.	Tried to find out more about the problem	3.05	1.17287	76.3	Mild affected
3.	Tried to look at the problem objectively and see all sides	2.9748	0.84835	74.4	Mild affected
4.	Practiced in your mind what had to be done	2.6667	1.06379	66.7	Mild affected
5.	Tried to handle things one step at a time	2.5417	0.95174	63.5	Mild affected
6.	Thought out different ways to handle the situation	2.4583	1.18034	61.5	Mild affected
7.	Tried to change the situation	2.2333	1.098	55.8	Moderate affected
8.	Learned something new to deal with the problem	2.0593	1.09617	51.5	Moderate affected
9.	Set up a plan of action	1.8376	1.03355	45.9	Moderate affected
10.	Tried to work out a compromise	1.7797	0.89763	44.5	Moderate affected
Total of Physiological Scale		2.4946	0.57294	62.4	Mild affected
Evasive coping style scale					
1.	Wished that the problem would go away	3.5417	0.81885	88.5	Extremely affected

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2.	Let time take care of the problem	3.5167	0.76678	87.9	Extremely affected
3.	Tried to put the problem out of your mind and think of something else	2.9167	0.94898	72.9	Mild affected
4.	Daydreamed about a better life	2.9167	1.22016	72.9	Mild affected
5.	Put off facing up to the problem	2.8833	0.98887	72.1	Mild affected
6.	Tried to get away from the problem for a while	2.641	1.06238	66	Mild affected
7.	Told yourself that this problem was not that important	2.6017	1.13333	65	Mild affected
8.	Tried to ignore or avoid the problem	2.5593	1.18785	64	Mild affected
9.	Tried to get out of the situation	2.4	1.07218	60	Mild affected
10.	Waited to see what would happen	2.2167	1.07049	55.4	Moderate affected
11.	Slept more than usual	2.1261	1.23202	53.2	Moderate affected
12.	Avoided being with people	1.8083	1.01498	45.2	Moderate affected
13.	Told yourself that the problem was someone else's fault	1.6387	1.14041	41	Moderate affected
Total Mean for Evasive Coping Style Scale		2.5796	0.30704	64.5	Mild affected
Optimistic coping style					

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1.	Tried to keep your life as normal as possible and not let the problem interfere	3.6	0.69088	90	Extremely affected
2.	Tried to keep a sense of humor	3.5333	0.70928	88.3	Extremely affected
3.	Thought about the good things in your life	3.45	0.68415	86.3	Extremely affected
4.	Tried to think positively	3.3083	0.85794	82.7	Extremely affected
5.	Told yourself not to worry because everything would work out fine	3.2	0.9839	80	Extremely affected
6.	Hoped that things would get better	2.7227	1.17115	68.1	Mild affected
7.	Told yourself that things could be much worse	2.7167	1.08607	67.9	Mild affected
8.	Compared yourself with other people who were in the same situation	2.6833	0.81975	67.1	Mild affected
9.	Tried to see the good side of the situation	2.5424	1.07532	63	Mild affected
Total mean Scale Optimistic coping style		3.0864	0.45699	77.2	Mild affected
Fatalistic coping scale					

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1.	Accepted the situation because very not being affected could be done	3.5417	0.78746	88.5	Extremely affected
2.	Expected the worst that could happen	3.1092	1.00667	77.7	Mild affected
3.	Resigned yourself to the situation because things looked hopeless	3.1	1.81682	77.5	Mild affected
4.	Tried to think positively	3.3083	0.85794	82.7	Extremely affected
5.	Told yourself that you were just having some bad luck	1.7373	1.10498	43.4	Moderate affected
Total mean Scale Fatalistic coping		2.85	0.66865	71.3	Mild affected
Emotive coping style scale					
1.	Worried about the problem	2.8167	1.20212	70.4	Mild affected
2.	Took out your tensions on someone else	2.6083	1.11744	65.2	Mild affected
3.	Blamed yourself for getting into such a situation	1.9573	1.29584	48.9	Moderate affected
4.	Did something impulsive or risky that you would not usually do	1.1695	0.57446	29.2	Not affected
Total mean Scale		2.125	0.64141	53.1	Moderate affected
Palliative coping style scale					

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1.	Tried to keep your feelings under control	3.2712	0.76974	81.8	Extremely affected
2.	Preferred to work things out yourself	3.2185	0.90347	80.5	Extremely affected
3.	Told yourself that you could handle anything no matter how hard	2.8898	1.09999	72.2	Mild affected
4.	Tried to improve yourself in some way so you could handle the situation better	2.5417	1.09157	63.5	Mild affected
5.	Thought about how you had handled other problems in the past	2.4083	1.05716	60.2	Mild affected
6.	Wanted to be alone to think things out	2.375	1.13065	59.4	Moderate affected
7.	Kept your feelings to yourself	1.916	1.11674	47.9	Moderate affected
Total mean scale Palliative coping style		2.6576	0.49805	66.4	Mild affected
	Total mean	2.6513	0.32266	66.3	Mild affected
Support coping style scale					
1	Prayed or put your trust in God	3.7917	0.48326	94.8	Extremely affected
2	Talked the problem over with someone who had been in a similar situation	3.0339	1.06964	75.8	Mild affected
3	Talked the problem over with family or friends	3.0168	1.10456	75.4	Mild affected
4	Talked the problem over with a professional person (such as a doctor, nurse, minister, teacher, counselor)	2.8067	1.11445	70.2	Mild affected
5	Depended on others to help you out	2.1864	1.13942	54.7	Moderate affected

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Total Support coping style mean scale		2.9704	0.61115	74.3	Mild affected
Self–reliant coping style					
1.	Tried to keep your feelings under control	3.2712	0.76974	81.8	
2.	Preferred to work things out yourself	3.2185	0.90347	80.5	
3.	Told yourself that you could handle anything no matter how hard	2.8898	1.09999	72.2	
4.	Tried to improve yourself in some way so you could handle the situation better	2.5417	1.09157	63.5	
5.	Thought about how you had handled other problems in the past	2.4083	1.05716	60.2	
6.	Wanted to be alone to think things out	2.375	1.13065	59.4	
7.	Kept your feelings to yourself	1.916	1.11674	47.9	
Total mean scale Self–reliant coping style		2.6576	0.49805	66.4	
	Total mean	0.6513	0.32266	66.3	

Relations between coping strategies regarding gender.

Scale	Gender	N	Mean	SD±	Df	t	**P value**
Confrontive coping style	Male	74	2.5189	.50820	110	.624	**.030**
	Female	38	2.4474	.68684			
Evasive coping style	Male	74	2.5925	.32827	112	.608	**.062**
	Female	40	2.5558	.26561			
Optimistic coping	Male	75	3.0489	.46508			

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style	Female	42	3.1534	.43964	115	-1.189	**.432**
Fatalistic coping style	Male	76	2.7829	.53126			
	Female	42	2.9714	.85797	116	-1.474	**.018**
Emotive coping style	Male	74	2.0574	.59037			
	Female	42	2.2440	.71459	114	-1.514	**.248**
Palliative coping style	Male	75	2.2578	.45462			
	Female	40	2.3000	.36241	113	-.507	**.029**
Support ant coping style	Male	74	2.9811	.62036			
	Female	41	2.9512	.60130	113	.250	**.984**
Self-reliant coping style	Male	77	2.6327	.50477		-.758	
	Female	39	2.7070	.48716	114		**.732**
Mean coping	Male	77	2.6279	.28797			
	Female	43	2.6930	.37701	118	-1.060	**.222**

Relations between coping strategies regarding the Age.						
Scale	Age	N	Mean	Std±	F	**P <.001**
Confrontive coping style	18 to 30 years	14	2.5071	.68440	1.0384	
	31 to 39 years	15	2.3333	.44347		**.252**
	40 to 49 years	41	2.6268	.65728		
	50 to 65 years	42	2.4190	.46760		
	Total	112	2.4946	.57294		
Evasive coping style	18 to 30 years	13	2.7101	.41561		
	31 to 39 years	15	2.5692	.18797	.904	**.442**
	40 to 49 years	42	2.5531	.29876		
	50 to 65 years	44	2.5699	.31139		
	Total	114	2.5796	.30704		

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Optimistic coping style	18 to 30 years	13	3.1538	.54156	.153	**.927**
	31 to 39 years	16	3.0417	.59056		
	40 to 49 years	44	3.0934	.37273		
	50 to 65 years	44	3.0758	.46760		
	Total	117	3.0864	.45699		
Fatalistic coping style	18 to 30 years	14	2.4643	.75865	2.059	**.110**
	31 to 39 years	16	2.8438	.49896		
	40 to 49 years	44	2.9670	.74287		
	50 to 65 years	44	2.8580	.58419		
	Total	118	2.8500	.66865		
Emotive coping style	18 to 30 years	13	2.5846	.57423	2.219	**.090**
	31 to 39 years	15	3.1333	.58391		
	40 to 49 years	44	3.0000	.60694		
	50 to 65 years	43	3.0000	.60945		
	Total	115	2.9704	.61115		
Palliative coping style	18 to 30 years	15	2.8095	.54710	1.156	**.330**
	31 to 39 years	16	2.5982	.56477		
	40 to 49 years	42	2.7143	.48471		

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	50 to 65 years	43	2.5714	.46448		
	Total	116	2.6576	.49805		
supporting coping style	18 to 30 years	12	2.3125	.26382	1.576	**.199**
	31 to 39 years	16	2.2188	.56917		
	40 to 49 years	44	2.1989	.66817		
	50 to 65 years	44	1.9659	.69171		
	Total	116	2.1250	.64141		
Self-reliant coping style	18 to 30 years	13	2.4231	.33758	.952	**.418**
	31 to 39 years	16	2.1771	.40583		
	40 to 49 years	42	2.2381	.51816		
	50 to 65 years	44	2.2955	.34451		
	Total	115	2.2725	.42367		
Mean coping	18 to 30 years	16	2.6871	.35357	.772	**.512**
	31 to 39 years	16	2.5974	.30208		
	40 to 49 years	44	2.6991	.39352		
	50 to 65 years	44	2.6100	.22842		
	Total	120	2.6513	.32266		
Relations between coping strategies regard to the duration of treatment.						

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Coping style	Duration of treatment	N	Mean	Std. Deviation	F	P value
Confrontive coping style	less than 3 years	48	2.5708	.50569	1.376	**.254**
	3 to 5 years	43	2.4674	.57641		
	6 to 8 years	8	2.1375	.46579		
	9 years and more	13	2.5231	.79598		
	Total	112	2.4946	.57294		
Evasive coping style	less than 3 years	47	2.5270	.29791	.793	**.500**
	3 to 5 years	44	2.6171	.32275		
	6 to 8 years	10	2.6308	.25845		
	9 years and more	13	2.6036	.32461		
	Total	114	2.5796	.30704		
Optimistic coping style	less than 3 years	50	3.1289	.44972	.984	**.403**
	3 to 5 years	44	2.9975	.44926		
	6 to 8 years	10	3.2111	.56035		
	9 years and more	13	3.1282	.42756		
	Total	117	3.0864	.45699		
Fatalistic coping style	less than 3 years	51	2.8539	.77543	.199	**.897**
	3 to 5 years	44	2.8352	.53086		
	6 to 8 years	10	2.7500	.58926		
	9 years and more	13	2.9615	.74893		
	Total	118	2.8500	.66865		
Emotive coping style	less than 3 years	50	2.9520	.60415	.479	**.698**
	3 to 5 years	43	2.9907	.65021		

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	6 to 8 years	9	3.1556	.26034		
	9 years and more	13	2.8462	.69835		
	Total	115	2.9704	.61115		
Palliative coping style	less than 3 years	48	2.6667	.50815		**.208**
	3 to 5 years	45	2.6984	.47500	1.539	
	6 to 8 years	10	2.3429	.24467		
	9 years and more	13	2.7253	.63208		
	Total	116	2.6576	.49805		
supporting coping style	less than 3 years	48	2.0573	.61937		**.343**
	3 to 5 years	45	2.1778	.64319	1.123	
	6 to 8 years	10	1.9250	.52770		
	9 years and more	13	2.3462	.77418		
	Total	116	2.1250	.64141		
Self-reliant coping style	less than 3 years	48	2.2812	.39673		**.941**
	3 to 5 years	44	2.2689	.50478	.132	
	6 to 8 years	10	2.2000	.28109		
	9 years and more	13	2.3077	.33226		
	Total	115	2.2725	.42367		
Mean coping	less than 3 years	52	2.6698	.31313		**.819**
	3 to 5 years	45	2.6376	.30811	.308	
	6 to 8 years	10	2.5747	.26113		
	9 years and more	13	2.6830	.45641		
	Total	120	2.6513	.32266		

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Relations between Coping strategies and physiological stressors of patients undergoing Hemodialysis.			
Scale	Q^2	Df	**P value**
Confrontive coping style and physiological stressor	707.365(a)	475	**.000<.001**
Evasive coping style and physiological stressor	443.153(a)	304	**.000<.001**
Optimistic coping style and physiological stressor	423.879(a)	380	**.000<.001**
Fatalistic coping style and physiological stressor	411.903(a)	247	**.000<.001**
Emotive coping style and physiological stressor	388.523(a)	228	**.000<.001**
Palliative coping style and physiological stressor	393.086(a)	266	**.000<.001**
support ant coping style and physiological stressor	290.456(a)	190	**.000<.001**
Self-reliant coping style and physiological stressor	308.416(a)	228	**.000<.001**
Mean coping and physiological stressor	1430.961(a)	1064	**.000<.001**
Relations between Coping strategies and psychological stressors of patients undergoing Hemodialysis.			
Scale	Q^2	Df	**P value**
Confrontive coping style and psychological stressor	1136.018(a)	925	**.000<.001**
Evasive coping style and psychological stressor	785.094(a)	592	**.000<.001**
Optimistic coping style and psychological stressor	862.525(a)	684	**.000<.001**
Fatalistic coping style and psychological stressor	546.642(a)	456	**.000<.001**
Emotive coping style and psychological stressor	564.469(a)	456	**.000<.001**

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Palliative coping style and psychological stressor	731.854(a)	532	**.000<.001**
support coping style and physiological stressor	450.661(a)	342	**.000<.001**
Self-reliant coping style and physiological stressor	572.829(a)	456	**.000<.001**
Relations between Coping and helpfulness of patients undergoing Hemodialysis.			
Mean coping and psychological stressor	2281.867(a)	1900	**.000<.001**
Pearson Chi-Square	Q^2	Df	**P value**
	5911.333(a)	**4872**	**.000<.001**

1. DISCUSSION

Nearly all hemodialysis patients (97%) reported high levels of stress, with only three reporting moderate levels. Another research that found a higher overall mean stress score in CHD patients (78.3% vs. 43.3% in CPD) lent credence to this conclusion; the study included 50 patients with end-stage renal disease. Furthermore, it was noted that routine tasks were the primary source of stress for the vast majority of patients (93% of the total). Stress was also felt by 86.7% of patients due to their reliance on personnel and the limitations placed on them in terms of food and hydration. Moreover, concerns about blood vessel function caused moderate stress in 66.7% of patients, physical symptom functioning in 10% of patients, and mild stress in 76.7% of patients. Tang and Szeto found 50 end-stage renal disease (ESRD) patients in Hong Kong found that fluid restriction, followed by dietary restriction, pruritus, exhaustion, and financial load, were the most common stresses. The patients also reported various coping mechanisms (Tang et al., 2024). In contrast, 57 Nigerian patients living with end-stage renal disease (ESRD) were assessed for stressors using heat stress syndrome (HSS) (Akpor et al., 2024). Patients said that work-related time and location constraints, hydration limits, transportation issues, insufficient body utilization, long lengths of dialyzing treatments, and physical activity restrictions were the most stressful aspects of their condition. According to Shen et al (2023) research, previous studies have shown that hemodialysis patients experience more physical strain than a mental strain or stress. twelve, thirteen. Half of the hemodialysis patients consistently employ problem-oriented and emotion-focused coping mechanisms, the study found. Meanwhile, 91% of patients sometimes employ avoidance-oriented coping mechanisms,

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while 56% occasionally employ the coping methods of seeking assistance and solitary thoughts. Patients with end-stage renal disease (ESRD) often adopt problem-focused coping techniques, according to research, and they face both physiological and psychological stresses(Alsaeed et al., 2024). The study's results showed that 50% of hemodialysis patients consistently employ problem-oriented, emotionally focused coping mechanisms. Conversely, 91% of patients sometimes use coping mechanisms that entail avoiding difficult situations, and 56% of patients occasionally use techniques that involve reaching out to others and avoiding negative thoughts. According to studies, people with ESRD deal with physiological and psychological stresses, and they tend to deal with these stresses by focusing on solving problems rather than letting their emotions dictate their coping mechanisms. Researchers have shown that hemodialysis patients are more likely to adopt emotion-focused coping mechanisms and avoidant coping methods. Patients primarily used problem-oriented coping techniques rather than affective-oriented ones (Zeidalkilani et al., 2024). Single research found that people's feelings, motivation, and the ability to ignore or think alone were crucial in coming up with and implementing coping mechanisms. In particular, for ESR patients' quality of life and survival, this multi-faceted evaluation gives them the tools they need to evaluate their health and the effects of their disease. From a psychological standpoint, it is expected that patients would steer clear of 'Switching' and concentrate on coping mechanisms relevant to their condition. A Pearson correlation value of Cc(r) = -0.234 was obtained from an analysis of hemodialysis patients' coping methods and stresses. Based on the assumption of an inverse association, the P value was 0.2135, which means there is no statistical significance. Finding no significant links between stress and coping ratings, (Al Hashemi & Joseph, 2024) analyzed a sample of 32 patients undergoing HD and reached a similar inference. However, a significant correlation between total stressors and overall coping scores was shown by (Alhazmi et al., 2023)in their analysis of 68 HD patients.

2. IMPLICATIONS of NURSING & HEALTH POLICY

Nursing Practice

Nurses are essential members of the healthcare team, focusing on health promotion and maintenance. They integrate research findings into practice and engage in peer education to enhance their understanding of stress and coping strategies. Nurses assist hemodialysis patients in organizing daily life skills, fostering positive attitudes, and implementing coping mechanisms for improved patient care. They evaluate stress levels, encourage patients to

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employ positive coping strategies and conduct training programs on dialysis knowledge and care within the dialysis unit. This structured approach benefits both nurses and patients undergoing hemodialysis.

Nursing Education

Through assessment and curriculum strengthening, we will emphasize enhanced knowledge for nursing students and staff on stressors and coping strategies for hemodialysis patients. We will also encourage schools and teachers to support student improvement.

Nursing Administration

Nursing leaders should enhance hemodialysis patients' coping strategies through training via a video package. Nursing administrators need to give attention to all patients on hemodialysis. They can provide education, training, counseling, and assess knowledge levels. Nurse administrators must ensure the specialized area has recent journals, protocols, and checklists. Nursing personnel can raise awareness among students and staff about the stressors faced by hemodialysis patients.

Nursing Research

The study will be a valuable reference for future investigators and provide baseline data for nursing personnel implementing therapies for hemodialysis patients. Large-scale studies can describe assertiveness in nursing students. Replicating the study in other regions on a larger scale is recommended. Further research is needed to identify effective strategies for reducing stress in hemodialysis patients.

4. Limitations of the Study

This part summarizes all the limitations of the

study, some of which have previously been mentioned. This study was limited by the absence of kinds of literature specifically on clients' coping strategies.

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Received: 16-09-2024 Revised: 05-10-2024 Accepted: 02-11-2024

5. RECOMMENDATION

A health education team must be organized to provide education for the patients undergoing hemodialysis regarding stress and coping strategies. The development of journals, manuals handbooks on stress and coping strategies, and audiovisual aids will help health workers to take care of the patients in the best way. In-service education can be conducted for staff nurses regarding stress and how to cope with the stress in daily life among patients undergoing hemodialysis. Recreation facilities may be provided in hospitals and the dialysis room.

6. CONCLUSION

Stress in chronic renal failure patients can lead to lifestyle changes, including decreased ability to work and increased hospitalization. Patients on hemodialysis also experience significant stress. It is up to the individual to cope with these stressors, but chronic medical conditions can impact quality of life. As stress accumulates, coping mechanisms may become less effective, leading to decreased happiness and overall satisfaction in life. This is especially true for patients with end-stage renal disease. Nurses must prioritize patient care to help improve their quality of life.

AUTHOR CONTRIBUTIONS

Study design: AB, AA, NA, SB SB

Data collection: KA, ZO, NK, AB

Data analysis: AB, NA, AB, SB

Study supervision: AB, AA, NA, SB

Manuscript writing: AB, AA, NA, SB, KA, ZO, NK, NA, AB, SA, BS

Critical revisions for important intellectual content: AB, AA, NA, SB

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Power System Technology
ISSN:1000-3673

Received: 16-09-2024 Revised: 05-10-2024 Accepted: 02-11-2024

A C K N O W L E D G M E N T: The authors extend their appreciation to the Researchers Supporting Project to all the Heads of Health Clusters for their invaluable help in research approval.

C O N F L I C T O F I N T E R E S T S TAT E M E N: The authors declare no conflicts of interest.

D I S C L A I M E R: The authors declare that they have no competing financial interests or personal relationships that may have influenced the work reported in this study.

DATA AVA I L A B I L I T Y S TAT E M E N T: The data supporting the findings of this study are available from the corresponding author (Asma Barnawi) upon reasonable request.

ETH IC A L A P PROVA L: The ethical approval was obtained from the Institutional Review Board Opinion Letter, Makkah Region (07.07.2024).

PAT IENT CONSENT STATEMENT: Informed consents were obtained from the individuals who agreed to participate in this research.

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ISSN:1000-3673
Received: 16-09-2024 Revised: 05-10-2024 Accepted: 02-11-2024

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