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Hardiness Shields Against Depression in Iraqi Dialysis Patients

Ketahanan Melawan Depresi pada Pasien Dialisis di Irak

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Abstract

Background: Renal dialysis patients face numerous challenges throughout treatment and experience significant psychological pressures, including depression. The positive impact of psychological hardiness on mental health is notable and can lead to improved outcomes for individuals with depression. **Specific Background:** Depression is prevalent among renal failure patients, often going unrecognized and adversely affecting daily routines, social interactions, and overall well-being, potentially leading to higher mortality rates. **Knowledge Gap:** While the relationship between psychological hardiness and depression in renal failure patients has been suggested, comprehensive data quantifying this relationship is lacking. **Aims:** This study aims to determine the prevalence of depression symptoms and their correlation with psychological hardiness in renal failure patients undergoing hemodialysis. **Results:** Conducted as a descriptive correlational study from December 2023 to May 2024, 200 patients from Baghdad hospitals participated. The average age was 48.21 years, with 53% being male. Depression symptoms were reported at minimal (29.5%) and moderate (25.5%) levels, with an overall mean depression score indicating a moderate level (20.335±10.783). Psychological hardiness was moderate in 52.5% of patients. A significant negative correlation was found between psychological hardiness and depression symptoms (p-value = 0.001). **Novelty:** This study highlights the moderate levels of both psychological hardiness and depression symptoms among renal failure patients and establishes a significant inverse relationship between the two variables, suggesting that higher psychological hardiness is associated with lower depression symptoms. **Implications:** The findings suggest the need for community institutions to provide comprehensive support, boost self-confidence, and enhance life satisfaction for renal failure patients.

Hiighligt:

1. Moderate depression and psychological hardiness levels in renal failure patients.
2. Significant negative correlation between psychological hardiness and depression symptoms.

Support and counseling programs recommended to enhance mental health and resilience

Keyword: Renal dialysis, depression, psychological hardiness, hemodialysis, mental health

Pendahuluan

Patients undergoing renal dialysis are often subjected to a range of psychological stresses and challenges during the treatment period (1). Hemodialysis, while being a crucial and indispensable treatment modality for those with end-stage chronic renal failure, is associated with considerable patient burden (2,3). Patients undergoing predialysis typically experience significant muscle wasting, which is the primary cause of weakness (4). Moreover, daily life's functional and nutritional limitations, medication side effects (5,6), lack of family support, and dependence on health professionals often result in depressive disorders (7,8).

At the start of treatment, hemodialysis is the primary method used (93.2%), and it remains the primary method for long-term maintenance therapy (91.8%) for patients requiring renal support (9). There is a widespread belief that hemodialysis patients are at a significantly higher risk of developing mental health issues. Depression is a common experience for patients diagnosed with end-stage renal disease (ESRD), leading to a significant decrease in their quality of life (10). As an individual resource, psychological hardiness enables people to better deal with negative situations in both their personal and professional lives. It also helps them derive meaning from stressful events (11).

It is important to consider the relationship between psychological hardiness and depression. Researchers have found that individuals with high levels of psychological hardiness tend to rely on adaptive coping strategies, while those with low hardiness often use avoidance coping strategies that can increase depression (12). Additionally, studies have shown that psychological hardiness may have a preventive effect on the onset of depression. For instance, promoting hardiness can potentially improve the mental health of older individuals (13). Furthermore, those with high levels of hardiness tend to exhibit less anxiety and depression (14). It is worth noting that the positive effects of hardiness on mental health are significant and can lead to better outcomes for individuals suffering from depression. The study aims to determine the relationship between depression and psychological hardiness for patients with renal failure.

Metode

Design of the Study:

For the current study, a descriptive correlational design was employed to achieve the purpose of the current study, which was to determine the depression symptoms and its relation to psychological hardiness for renal failure patients. This study ran from December 2023 to May 2024.

Settings of the Study

The research encompassed individuals with renal failure who were receiving care via a hemodialysis machine. Participants were sourced from the Al Karama Teaching Hospital Dialysis Unit - Artificial Kidney Unit. According to data from Baghdad Health Directorate - Al-Karkh, there were 414 cases of renal failure patients at Al Karama Hospital. To ensure a 95% confidence level and a 5% margin of error, a minimum of 200 patients were required for the study.

Sample of the Study

A non-probability (purposive sample) 200 of patients was selected from hospitals in Baghdad. patients who receiving care via a hemodialysis machine were selected purposefully for this study.

Study Instrument:

This part is about getting demographic information from the patients, which includes the age, sex, and level of education; marital status; monthly income; occupation; and Residence status

The Psychological Hardiness Scale was developed by Emad Mekhemar in 1996 to assess the level of psychological hardiness among individual (15–17). This self-report measure consists of 47 items to be rated on a three-point Likert scale. The scale is divided into three dimensions: commitment, control, and challenge.

Beck Depression Inventory (BDI) is a reliable screening tool that can be used to evaluate depression in patients with hemodialysis. The Beck Depression Inventory (BDI-II) is a widely used psychological scale in the Arab world, for both clinical and non-clinical samples. It consists of 21 items and was created by the American psychiatrist E. Beck. The questionnaire was translated into Arabic by Abdel-Khalek in 1998 (18,19).

Data Collection

Between January 2 and February 28, 2024, data collection for this study was carried out with the consent of

affiliated hospitals. Permissions were obtained from the Health Directorate through a task facilitation paper. Before data collection, the hospital director and patients were approached by the researcher, who explained the study's purpose and obtained their consent. In compliance with established safety protocols, the researcher wore a face mask and used hand sanitizer to prevent the spread of microorganisms among patients. The researcher then proceeded to communicate with each participant and obtain their agreement to participate in the study, while also explaining the study's objectives. Following the receipt of participants' consent, the researcher informed them that the information obtained would be kept confidential, after which data collection commenced.

Hasil dan Pembahasan

List	Characteristics		f	%
1	Age M±SD= 48.21±16.35	18- less than 31 years	45	22.5
		31- less than 44 years	39	19.5
		44 - less than 57 years	39	19.5
		57- less than 70 years	60	30.0
		70 years and more	17	8.5
		Total	200	100.0
2	Sex	Male	106	53.0
		female	94	47.0
		Total	200	100.0
3	Marital status	single	46	23.0
		married	132	66.0
		separated	4	2.0
		Widowed/er	18	9.0
		Total	200	100.0
		read and write	55	27.5
		Intermediate or less	43	21.5
4	Level of education	reparatory	40	20.0
		Institute/University	58	29.0
		postgraduate	4	2.0
		Total	200	100.0
		Employee	46	23.0
		Retired	32	16.0
5	Occupation	Freelance work	51	25.5
		Jobless	71	35.5
		Total	200	100.0

Table 1. *Table (3-1): Distribution of Patients according to their Socio-demographic Characteristics*

f: Frequency, %: Percentage, M: Mean, SD: Standard deviation

The data presented in Table 3-1 reveals that the patients' average age is 48.21±16.35 years, with 30% falling within the age group of 57- less than 70 years. The male population accounts for 53% of patients, while the female population accounts for 47%. the analysis Indicates that the majority of patients (66%) are married, while only 2% are separated. Regarding to Occupation, 35.5% and 25.5% of patients show that they are jobless and freelance work respectively.

BDI Items	M	SD	Domain
Sadness	1.0050	.79885	psychological symptoms of depression (M±SD .8189 ± .50158)
Pessimism	.8150	1.09396	
Feelings of past failure	.3600	.70204	
Loss of pleasure	.9900	.97707	
Feelings of guilt	.8500	.82517	

Feelings of punishment	.8600	1.10294	
Self-dislike	.3350	.65951	
Self-criticism	.9749	1.00221	
Suicidal thoughts/wishes	.4050	.83334	
Crying	.8150	1.05658	
Agitation	1.1600	1.01467	
Loss of interest	.8600	.91355	
Indecisiveness	.7550	.88254	
Worthlessness	.7550	.81134	
Concentration difficulty	1.345	1.28226	
Change in sleep pattern (Insomnia)	1.2050	.97865	somatic symptoms of depression (M±SD= 1.3430 ± .73978)
Irritability	1.4250	.94277	
Loss of appetite	1.1005	.99491	
Loss of energy	1.3050	1.07131	
Tiredness and fatigue	1.3350	1.10402	
Loss of interest in sex	1.6900	1.28536	
Total BDI	20.3350	10.78398	Moderate

Table 2. *Table (3. 2): Assessment of Beck Depression Inventory BDI-II Items among Renal Failure Patients (200)*

BDI-II: Beck Depression Inventory, M: Mean for total score, SD: Standard Deviation for total score

minimal = 0-13, Mild = 14-19, Moderate = 20-28, Severe= 29-63

Total mean score = 20.3350 (SD=10.78398). which indicated a moderate level. Out of the 4-point scale responses (0, 1, 2, & 3) to the items, 1 indicated a mild positive response to that item. This indicated that our study participants (renal failure patients) had the above nine problems (sadness, agitation, concentration difficulty, change in sleep pattern, irritability, loss of appetite, loss of energy, tiredness and fatigue, loss of interest in sex). When classifying BDI into somatic and psychological symptoms, it was observed that the mean somatic symptoms of depression score was 1.3430, while the mean psychological symptoms score was .8189.

Psychological hardiness	f	%	M	SD	Ass
Low	1	.5	108.1	10.87	Moderate
Moderate	105	52.5			
High	94	47.0			
Total	200	100.0			

Table 3. *Table (3- 3): Overall Assessment of Psychological Hardiness among Renal Failure Patients (200)*

f: Frequency, %: Percentage

M: Mean for total score, SD: Standard Deviation for total score, Ass: Assessment

Low= 47-78, Moderate= 79-109, High= 110-141

This table manifests that Patients show moderate level of psychological hardiness as reported among 52.5% of them (M±SD= 108.1 ± 10.87).

Psychological hardiness	M	SD	Ass
Commitment	2.4255	.31497	High
Control	2.2360	.24871	Moderate
Challenge	2.2359	.32447	Moderate

Table 4. *Table (3- 4): Assessment of Psychological hardiness Domain among Renal Failure Patients (N=200)*

M: Mean for total score, *SD: Standard Deviation*

Low= 1– 1.66, Moderate= 1.67 – 2.33, High= 2.34 – 3

The table presents three domains of psychological hardiness: commitment, control, and challenge. The total average for commitment indicates a high level of psychological hardiness, while the total averages for control and challenge indicate a moderate level.

Scales	Pearson correlation	p-value
Beck Depression Inventory (BDI-II)	-.405**	0.001
Psychological Hardiness		

Table 5. *Table (3- 5): Correlation between Depression Symptoms and Psychological Hardiness among Renal Failure Patients (N=200)*

**. Correlation is significant at the 0.01 level (2-tailed).

This table manifests that there is significant relationship (negative) between depression symptoms and psychological hardiness among the patients as seen with significant negative correlation at p-value= 0.001.

Based on the analysis provided in Table 3-1, the largest percentage of participants (30%) fell within the age range of 57 to under 70 years. The average age of our participants was 48.21 years. Our findings are consistent with those of Amber et al, who observed that the majority (49.1%) of patients were between the ages of 51 and 70 (20). Additionally, Hermis and Abed's 2022 study in Iraq revealed a mean age of 43.8 years for hemodialysis patients, with the majority (53-60%) being 48 years or older (21). Also, the study's findings reveal that 106 individuals (53%) were male within the sample population, and 66% of patients were married.

According to the data analysis presented in Table 3-2, The results indicate that among renal failure patients, the level of depression symptoms, as measured by the Beck Depression Inventory (BDI), was moderate. This is evidenced by the mean depression score of 20.335 with a standard deviation of 10.783. Additionally, when looking at the individual items of the BDI, most items showed moderate levels of depression. Furthermore, when the BDI scores were classified into somatic and psychological symptoms, it was found that the mean score for somatic symptoms was higher (1.3430) compared to psychological symptoms (.8189). This suggests that renal failure patients experience more somatic symptoms of depression, such as physical manifestations, than psychological symptoms (2). In a study conducted by Abdelmobdy et al. in 2022, it was found that 8% of renal failure patients did not show signs of depression, while 28.6% exhibited mild symptoms, 38.8% showed moderate symptoms, and 24.6% had severe symptoms (10). Additionally, another study discovered that the largest percentage of renal failure patients (33.9%) experienced moderate levels of depression, followed by 29% who had severe depression (22).

Based on the analysis presented in Table 3-3, it appears that renal failure patients have a moderate level of psychological hardiness, as reported by 52.5% of patients. This is supported by a mean hardiness score of 108.1 with a standard deviation of 10.87. Additionally, when examining the sub-domains of the psychological hardiness scale in Table 3.4, it appears that the Commitment domain is high (M±SD= 2.4255± .31497), the Control domain is moderate (M±SD= 2.23 ± .248), and the Challenge domain is also moderate (M±SD= 2.23 ± .324). A study was conducted to analyze the levels of psychological hardiness in patients with renal failure. The findings indicate that the level of psychological hardiness was medium (M±SD= 3.36± 0.47) with an average percentage of responses (67.2%) in the sub-domain of the psychological hardiness scale. The Commitment domain was found to be at a high level (M±SD= 3.44± .51), the Control domain at a moderate level (M±SD= 3.25 ± .57), and the Challenge domain at a moderate level (M±SD= 3.39 ± .57) (23). On the other hand, previous studies conducted in Iran to assess the psychological hardiness of patients undergoing hemodialysis used different scales such as the Ahvaz Hardiness Scale and the Kobasa Psychological Hardiness Questionnaire separately. These studies found that patients had a lower level of hardiness (24,25).

Table (3-5) presents a statistical analysis that reveals a significant inverse relationship between depression symptoms and psychological hardiness among the patients as seen with p-value= 0.001. This result suggests that individuals with lower levels of psychological hardiness may experience an increase in symptoms of depression, and vice versa. The findings align with which established a significant negative relationship between depression and psychological hardiness in patients with kidney failure (26), Samira et al.'s study, which established a significant correlation between depression and psychological hardiness in individuals with post-traumatic stress disorder (27). It further validates Mann and Lee's research, which revealed that reduced levels of hardiness are linked to elevated depressive symptoms (13). It appears that hardiness can help shield against emotional instability that may lead to feelings of depression (13,27,28).

Kesimpulan

Patients with renal failure are more vulnerable to depression, but this condition often goes unnoticed. Depression

can significantly affect patients' daily routines (longer duration of hemodialysis), social interactions, and overall well-being, which may ultimately result in higher mortality rates (29–32). Those with chronic kidney disease, for instance, are known to have depression scores that are two to three times higher than those with other chronic diseases and three to four times higher than the general population (33). In the present study, it was found that almost 70.5%% of patients with renal failure displayed symptoms of depression. Additionally, when looking at specific aspects of psychological hardiness, patients tend to score high in commitment, indicating a strong dedication to coping with their condition. Control and Challenge domains score moderately, indicating a balanced approach to handling the challenges associated with renal failure. The researcher believes that kidney failure patients may experience a range of pressures and restrictions that can negatively affect their well-being. These can include challenges related to travel, transportation, and access to quality nutrition due to their illness. Additionally, patients may experience feelings of being a burden on others, as well as fear and uncertainty about the future (34). These factors can contribute to pain, frustration, and a sense of helplessness, which can further impact their psychological health and hardiness. As Mukhaimer has noted, depression can lead to decreased motivation, effectiveness, and psychological hardiness among affected individuals (35).

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