Perceived Stress Among Kidney Failure Patients Undergoing Dialysis in Palestine

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Abstract:
Introduction: This research examines the perceived stress among kidney failure patients undergoing dialysis in Palestine. It highlights the importance of understanding the psychological and social dimensions related to perceived stress to improve healthcare and alleviate patients' suffering.
Methods: The study employed a descriptive method and included a sample of 112 patients undergoing dialysis. Perceived stress levels were measured using the Perceived Stress Scale (PSS), which consists of 14 items.
Results: The results showed that perceived stress levels were higher among females compared to males. Younger age groups exhibited higher stress levels than older age groups. In terms of social status, stress levels were higher among widows and divorcees compared to married individuals. No statistically significant differences were found based on the number of dialysis sessions.
Conclusions: The findings indicate the importance of psychological and social factors in the experience of perceived stress among kidney failure patients, with females, younger age groups, and widows and divorcees experiencing higher stress levels. The study emphasizes the need to provide psychological and social support to improve patients' quality of life and ability to cope with the disease.

Keywords: Perceived stress, kidney failure, dialysis.

Introduction

Chronic kidney failure is a serious and common disease that requires continuous medical care and treatments such as dialysis. It is characterized by the slow and gradual loss of kidney function, leading to significant deterioration in patients' quality of life and the accumulation of toxins in the body. This situation imposes radical changes in patients' lifestyles and requires continuous medical care (National Kidney Foundation, 2020). Most patients with chronic kidney disease rely on dialysis to survive, with 92% undergoing dialysis as a substitute treatment due to the unavailability of kidney transplants and the shortage of donors and medical facilities (de Oliveira Soares et al., 2022). These changes lead to psychological and physical challenges, including feelings of stress and anxiety, significantly affecting patients' quality of life, including restrictions on daily physical and mental activities and social limitations (Brown et al., 2021).
In Palestine, statistics indicate that kidney failure is the ninth leading cause of death, with the number of patients receiving regular dialysis services in 2020 reaching approximately 1,573 (Palestinian Central Bureau of Statistics, 2020). These patients suffer from physical and psychological complications that affect their quality of life, with perceived stress being a major

challenge. This includes feelings of tension and anxiety arising from adapting to their complex health condition (Abu Ria, 2002).

Chronic fatigue is one of the common symptoms among kidney failure patients undergoing dialysis, affecting their ability to perform daily activities and deteriorating their physical and mental health. The prevalence of fatigue reaches 97% among these patients, and is associated with multiple factors, including anemia, sleep disorders, poor nutrition, and depression (Debnath et al., 2021; Zyga et al., 2015; Brys et al., 2021; Jhamb et al., 2008). The changes resulting from dialysis lead to physical and social activity limitations, physical pain, recurrent fatigue episodes, and psychological distress. Patients also suffer from emotional problems and poor mental health evaluation (Kraus et al., 2016). Fatigue and depression are believed to share the same pathological pathway, and sleep disorders are often associated with fatigue (Bossola et al., 2018).

Perceived stress is defined as an individual's psychological response to stressful events in their daily life, including feelings of anxiety, depression, and helplessness. Long treatment periods, complex medical procedures, dietary restrictions, and a new lifestyle are the main factors contributing to increased stress among kidney failure patients (Cohen et al., 1983; Park et al., 2019). High-stress levels can lead to psychological problems such as depression and anxiety, negatively affecting treatment effectiveness (Palmer et al., 2013). The quality of life of kidney failure patients heavily depends on their ability to cope with the psychological and physical stress resulting from their health condition (Al-Basha & Azab, 2015). Perceived stress can negatively affect treatment outcomes and increase the risk of overall health deterioration and mortality rates. Effective stress management is essential to improve treatment outcomes and enhance the quality of life for these patients (Patel et al., 2016; Lu et al., 2018). Previous studies indicate that depression is common among kidney failure patients, affecting their ability to cope with the disease (Kimmel & Peterson, 2005). Additionally, research has shown that psychological and social pressures significantly impact the quality of life for patients in advanced stages of the disease (Ben Kamchi, 2018; Griva et al., 2016).

Previous research indicates a relationship between several variables and perceived stress levels among kidney failure patients undergoing dialysis. In terms of gender, a study by Polikandrioti et al. (2021) showed that women experience higher levels of perceived stress compared to men, as well as higher levels of anxiety and depression, while a study by Boubaida and Ahmed (2018) did not find significant differences between genders in quality of life.

Regarding age, studies by Guerraoui et al. (2021) and Wen et al. (2023) found that younger age groups, especially those under 30 years old, experience higher levels of perceived stress compared to older age groups. A study by Alatawneh (2016) showed that age and education level affect stress levels and quality of life, with the quality of life being at a medium level.

In terms of social status, studies by Wang et al. (2024) and Safi et al. (2024) indicated that widows and divorcees experience higher stress levels compared to married individuals. A study by Al-Habashi et al. (2020) added that quality of life was moderate and being unemployed and married was associated with higher quality of life levels.

Regarding the number of dialysis sessions, studies by Wang et al. (2024) and Guerraoui et al. (2021) showed no statistically significant differences in perceived stress levels based on the number of sessions, as patients adapt to the weekly routine of sessions.

Studies by Patel et al. (2016) and Griva et al. (2018) confirm that kidney failure patients experience higher levels of psychological stress compared to healthy individuals or those with other chronic conditions, increasing the incidence of depression and anxiety. Studies by Palmer et al. (2013) and Lu et al. (2018) add that high psychological stress negatively affects treatment outcomes and quality of life, leading to health deterioration and increased mortality rates. On the other hand, studies like Adroub and Al-Hussein (2017) indicated a relationship between optimism and

pessimism and quality of life, while a study by Karit (2020) showed that the overall quality of life was generally average but low in the physical health dimension.

Understanding perceived stress among kidney failure patients is a crucial step in improving healthcare for them and alleviating their suffering. Despite the prevalence of fatigue, it has not been adequately studied among patients in Palestine, highlighting the importance of researching this topic to improve the care provided to patients. This study aims to explore the factors associated with stress among dialysis patients and enhance understanding of the psychological and social dimensions related to the disease experience.

Methods:

Study Methodology

The descriptive method was used to achieve the study's objectives, as it is suitable for the nature and goals of the research. The descriptive method is defined as a method that studies a current phenomenon or issue through which information can be obtained to answer research questions without researchers' intervention, aiming to describe the phenomenon under study and analyze its data.

Study Population and Sample

The study population consisted of a group of patients undergoing dialysis, and the study sample included 112 patients selected using a convenience sampling method. Table 1 shows the distribution of the study sample members:

Table 1: Distribution of the Study Sample Members by Study Variables.

Variable	Level	N	Percentage
Gender	Male	64	57.1%
	Female	48	42.9%
Age	Under 30	11	9.8%
	45-30	31	27.7%
	60- 46	36	32.1%
	60and over	34	30.4%
Social Status	Married	62	55.4%
	Single	22	19.6%
	Divorced	9	8.0%
	Widowed	19	17.0%
Number of Sessions	Once to twice	23	20.5%
	Three to four times	72	64.3%
	More than 5 times	17	15.2%

Study Tool:

Based on educational literature and previous studies related to the topic, the Perceived Stress Scale (PSS), developed by Cohen et al. in 1983, was used. The scale consists of 14 items and is a common tool for measuring perceived stress among individuals. The scale is based on the psychological theory that stress arises from the personal assessment of situations as threats or challenges that exceed individual coping abilities. Responses were recorded using a five-point Likert scale, with response levels classified as follows: low (1 to <2.33), medium (2.34 to <3.67), and high (3.68 to 5).

Validity and Reliability

The validity of the tool was verified by calculating the Pearson correlation coefficient for the questionnaire items with the total score of the tool, and statistical significance was found in all items, indicating internal consistency. The reliability of the tool was also verified using Cronbach's alpha reliability equation, with an overall score of 0.82 indicating suitable reliability for the study's purposes.

Statistical Analysis

After collecting the questionnaires and ensuring their validity for analysis, the data were coded for entry into the computer for appropriate statistical analyses using the SPSS program. Statistical analyses included calculating means and standard deviations for each item, as well as using the t-test, one-way ANOVA, Pearson correlation coefficient, and Cronbach's alpha reliability equation.

Results:

The tool was distributed to the study sample using a form, and after completing the collection of questionnaires and ensuring they were answered correctly, the number of valid retrieved questionnaires was 185. The study sample was distributed as 57.1% males and 42.9% females. In terms of age, 9.8% of participants were under 30 years old, 27.7% were between 30 and 45 years old, 32.1% were between 46 and 60 years old, and 30.4% were over 60 years old. Regarding social status, the percentages were 55.4% married, 19.6% single, 8.0% divorced, and 17.0% widowed. In terms of the number of sessions, 20.5% of participants attended once to twice, 64.3% attended three to four times, and 15.2% attended more than five times.

Table 2: Results of the Independent Samples T-test for the Perceived Stress Means Among Kidney Failure Patients Undergoing Dialysis in Palestine Attributed to Gender Variable

Variable					
Gender	**N**	**M**	**S D**	**T Value**	**Sig**
Male	64	3.23	.61	-2.33	.022
Female	48	3.48	.471	-2.41	.017

The results of the t-test indicate statistically significant differences in perceived stress levels between male and female kidney failure patients undergoing dialysis in Palestine. Female patients had significantly higher perceived stress levels, with a mean of 3.48 compared to 3.23 for males. This suggests that females experience higher levels of stress compared to males.

Table 3: Results of One-Way ANOVA for the Perceived Stress Means Among Kidney Failure Patients Undergoing Dialysis in Palestine Attributed to Age Variable

Variable					
Age	**N**	**M**	**S D**	**F Value**	**Sig**
Under 30	11	3.92	.37		
45-30	31	3.55	.52		
60- 46	36	3.18	.56	9.74	.00
60and over	34	3.12	.46		
Total Score	112	3.33	.56		

The results of the one-way ANOVA indicate statistically significant differences in perceived stress means among kidney failure patients undergoing dialysis in Palestine based on age. The results showed that the "under 30" age group had the highest levels of perceived stress, with a mean of

3.92 and a standard deviation of 0.37, followed by the "30-45" age group with a mean of 3.55 and a standard deviation of 0.52. The "46-60" age group had a mean perceived stress of 3.18 with a standard deviation of 0.56, and the "60 and over" age group had the lowest mean perceived stress at 3.12 with a standard deviation of 0.46. The overall F value was 9.74 at a significance level of 0.00, indicating significant differences in perceived stress levels among different age groups. Overall, younger age groups experienced higher levels of perceived stress compared to older age groups.

Table 4: Results of One-Way ANOVA for the Perceived Stress Means Among Kidney Failure Patients Undergoing Dialysis in Palestine Attributed to Social Status Variable

Variable					
Social Status	**N**	**M**	**S D**	**F Value**	**Sig**
Married	62	3.19	.48		
Single	22	3.28	.59		
Divorced	9	3.56	.86	5.73	.001
Widowed	19	3.74	.39		
Total Score	112	3.33	.56		

The results of the one-way ANOVA indicate statistically significant differences in perceived stress means among kidney failure patients undergoing dialysis in Palestine based on social status. The results showed that widows had the highest levels of perceived stress, with a mean of 3.74 and a standard deviation of 0.39, followed by divorcees with a mean of 3.56 and a standard deviation of 0.86. Singles had a mean perceived stress of 3.28 with a standard deviation of 0.59, while married individuals had the lowest levels of perceived stress, with a mean of 3.19 and a standard deviation of 0.48. The overall F value was 5.73 at a significance level of 0.001, indicating significant differences in perceived stress levels among different social status groups. Overall, unmarried individuals, especially widows and divorcees, experienced higher levels of perceived stress compared to married individuals.

Table 5: Results of One-Way ANOVA for the Perceived Stress Means Among Kidney Failure Patients Undergoing Dialysis in Palestine Attributed to Number of Sessions Variable

Variable					
Number of Sessions	**N**	**M**	**S D**	**F Value**	**Sig**
Once to twice	23	3.53	.59		
Three to four times	72	3.25	.54	2.49	.08
More than 5 times	17	3.43	.58		
Total Score	112	3.33	.56		

The results of the one-way ANOVA indicate no significant differences in perceived stress means among kidney failure patients undergoing dialysis in Palestine based on the number of sessions. The results showed that those who attended dialysis sessions once to twice had the highest perceived stress, with a mean of 3.53 and a standard deviation of 0.59, followed by those who attended more than five times, with a mean of 3.43 and a standard deviation of 0.58. Those who attended three to four times had the lowest level of perceived stress, with a mean of 3.25 and a standard deviation of 0.54. The overall F value was 2.49 at a significance level of 0.08, indicating that the differences in perceived stress levels among different session number groups were not statistically significant at the 0.05 level. This means that the number of sessions did not have a significant impact on perceived stress levels among patients in this sample.

Discussion:

The results of the t-test indicate statistically significant differences between males and females in perceived stress levels among kidney failure patients undergoing dialysis in Palestine. Females had significantly higher stress levels, with a mean of 3.48 compared to a mean of 3.23 for males. These differences can be explained by a range of factors; biological and psychological differences between genders may affect how individuals express and respond to stress, with women being more susceptible to higher stress levels. Additionally, traditional social roles that women bear, such as family and household responsibilities, may increase psychological and physical pressures, especially when facing complex health challenges like kidney failure. Women may also respond differently to illness and the treatment process, leading to higher levels of anxiety about the impact of the disease on their daily lives. Lack of appropriate social support can also increase women's stress, as the support network plays a crucial role in alleviating pressures associated with chronic diseases. These findings are consistent with the study by Polikandrioti et al. (2021), which showed that women experience higher levels of perceived stress compared to men.

The results of the one-way ANOVA indicate statistically significant differences in perceived stress levels among kidney failure patients undergoing dialysis in Palestine based on age. These results can be explained by the fact that younger age groups may be more vulnerable to stress due to pressures related to work, social life, and future expectations, in addition to the lack of experience in dealing with chronic diseases such as kidney failure. Older age groups may have developed better coping strategies due to accumulated experience and the ability to adapt to their health situation, which reduces perceived stress levels. These findings are consistent with studies by Guerraoui et al. (2021) and Wen et al.(2023) .

The results also indicate differences in stress levels based on social status. The results showed that widows experience the highest levels of perceived stress. These results can be explained by the social and psychological factors associated with social status, where widows and divorcees may lack the social and emotional support provided by a partner, increasing feelings of loneliness and psychological pressure, especially when dealing with a chronic disease like kidney failure. Singles may face similar challenges but to a lesser extent compared to widows and divorcees. In contrast, married individuals may benefit from the emotional and social support of a life partner, contributing to lower levels of perceived stress. Social support plays a vital role in managing pressures and adapting to chronic diseases, and its absence can lead to higher stress levels among unmarried groups. These findings are consistent with studies by Wang et al. (2024) and Safi et al. (2024), which indicated that widows and divorcees experience higher stress levels compared to married individuals. The study by Al-Habashi et al. (2020) added that quality of life was moderate and marriage was associated with higher quality of life levels.

The results of the one-way ANOVA indicate no significant differences in perceived stress levels based on the number of sessions. This may suggest that the number of sessions did not have a significant impact on perceived stress levels among patients in this sample, meaning that other factors, such as psychological or social support, may have a greater impact on stress levels. Additionally, the lack of significance may result from individual variation in how patients handle stress related to dialysis, regardless of the number of sessions. This may reflect results related to how individuals perceive their personal experience and the impact of dialysis on their daily lives, rather than being directly related to the number of sessions. These findings are consistent with studies by Wang et al. (2024) and Guerraoui et al. (2021), which showed no statistically significant differences in perceived stress levels based on the number of dialysis sessions.

Conclusions:

The study's conclusions indicate that female kidney failure patients in Palestine experience higher levels of perceived stress compared to males, reflecting the impact of psychological and social factors. Younger age groups also showed higher stress levels due to challenges related to work and social life, while older age groups benefited from accumulated coping strategies. Additionally, widows and divorcees experienced higher stress compared to married individuals, highlighting the importance of social support in improving patients' quality of life. The study shows that social and psychological factors play a crucial role in the experience of perceived stress among kidney failure patients.

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