

Psychological Distress and Perceived Social Support Levels of Patients with Chronic Hemodialysis

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Abstract

Objective: Patients with chronic kidney failure receive hemodialysis treatment for survival. However, they experience a change in their quality of life and suffer from mental symptoms and disorders. This study had the objective of determining the psychological distress and perceived social support levels in patients undergoing hemodialysis.

Method(s): This was a cross-sectional study conducted at the hemodialysis unit of a public hospital. The sample consisted of 29 patients who met the inclusion criteria and agreed to participate. Data were collected using a personal information form, the Kessler Psychological Distress Scale, and the Multidimensional Scale of Perceived Social Support Scale. The data were analyzed using percentage distributions, means, standard deviation, median values, Spearman correlation analysis, Mann-Whitney U test, and Kruskal-Wallis H Test.

Results: The mean age of the participants was 60.66±10.66 years. Participants had high psychological distress levels (42.65±7.39) and perceived social support levels (57.06±22.24). There was a negative correlation between the Kessler Psychological Distress Scale total and the Multidimensional Scale of Perceived Social Support Scale total and subscale scores (p<0.05). While psychological distress levels of the patients created a significant difference according to gender, perceived social support levels created a significant difference according to marital status.

Conclusion: The lower the social support, the higher the psychological distress in patients undergoing hemodialysis.

Keywords: Hemodialysis, psychological distress, social support

Kronik Hemodiyaliz Hastalarının Psikolojik Sıkıntı ve Algıladıkları Sosyal Destek Düzeyleri

Öz

Amaç: Kronik böbrek yetmezliği olan hastalar sağ kalım için hemodiyaliz tedavisi almaktadır. Bununla birlikte yaşam kalitelerinde bir değişiklik yaşarlar ve hastalarda ruhsal belirti ve bozukluklar görülmektedir. Bu çalışmada, hemodiyaliz hastalarının psikolojik sıkıntı ve algıladıkları sosyal destek düzeylerini incelemek amaçlanmıştır.

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Yöntem: Çalışma bir devlet hastanesinin Hemodiyaliz Ünitesi'nde kesitsel ve ilişki arayıcı tasarım tipinde gerçekleştirildi. Çalışmanın örneklemini araştırmaya dahil edilme kriterlerini taşıyan ve çalışmaya katılmayı kabul eden 29 hasta oluşturdu. Araştırmanın verileri, kişisel bilgi formu, Kessler Psikolojik Sıkıntı Ölçeği ve Çok Boyutlu Algılanan Sosyal Destek Ölçeği kullanılarak toplandı. Veriler, yüzde dağılımları, ortalamalar, standart sapma, ortanca değerler, Spearman korelasyon Analizi, Mann Whitney U testi ve Kruskal-Wallis H Testi kullanılarak analiz edildi.

Bulgular: Katılımcıların yaş ortalaması $60,66 \pm 10,66$ yılıdır. Çalışmada kronik hemodiyaliz hastalarının psikolojik sıkıntı düzeyleri ($42,65 \pm 7,39$) ve algılanan sosyal destek düzeyleri ($57,06 \pm 22,24$) yüksek olarak bulundu. Kessler Psikolojik Sıkıntı Ölçeği toplamı ile Çok Boyutlu Algılanan Sosyal Destek Ölçeği toplam ve alt ölçek puanları arasında negatif korelasyon vardı ($p < 0,05$). Hastaların psikolojik sıkıntı düzeyleri cinsiyete göre anlamlı farklılık oluştururken, algılanan sosyal destek düzeyleri ise medeni duruma göre anlamlı farklılık oluşturdu.

Sonuç: Kronik hemodiyaliz hastalarının sosyal destek düzeyleri azaldıkça psikolojik sıkıntılarının arttığı saptanmıştır.

Anahtar Kelimeler: Hemodiyaliz, psikolojik sıkıntı, sosyal destek

INTRODUCTION

Chronic kidney disease (CKD) is a condition in which the kidneys are damaged and cannot filter blood as well as they should. It is a growing public health problem in both developed and developing countries. Patients with CKD begin to receive individualized treatments after a while. Hemodialysis is one of the most common treatments for patients with CKD. Hemodialysis is a process in which blood is removed from the body, put through a filter, and then returned to the patient after toxins are removed (1). Hemodialysis causes weakness, fatigue, lethargy, nausea, vomiting, and loss of appetite. The side effects and other problems (treatment failure, disease progression, etc.) lead to psychosocial problems (2,3). Research shows that the more frequently chronic hemodialysis patients experience problems, the more likely they are to present with psychiatric comorbidities (3,4,5). Despite

this, mental symptoms (depression, anxiety, etc.) are often not identified or treated (6).

Recent research has focused more on psychosocial resources affecting the protection and promotion of health (7). Social support is a critical coping mechanism that affects the physical and mental quality of life (8). Social support positively affects patients' health outcomes (8). Patients undergoing hemodialysis receive social support from their spouses, family members, friends, peers, or healthcare professionals (8).

The treatment of chronic hemodialysis is long and fraught with complications. Therefore, such patients need more care and social support. However, there is little scientific data regarding perceived social support and psychological distress (9,10,11). Davaridolatabadi, et al. detected that patients under hemodialysis treatment suffer from perceived social support and anxiety (12). Hettiarachchi, et al. determined that more than half of the

chronic hemodialysis patients were psychologically distressed, and social support will be worth considering early (10). It was aimed at determining the psychological distress and perceived social support levels in patients undergoing hemodialysis in the study.

MATERIALS AND METHODS

Population and Sample: The research was conducted between 07.09.2020 and 05.10.2020 at the hemodialysis unit of a public hospital in a province in northwest Turkey. The inclusion criteria were; being 18-79 years of age, being diagnosed with CKD, having sufficient awareness and perception to answer questions easily, and having no sensory problems (vision, auditory, etc.). The study population consisted of 34 patients. Five patients declined to participate in the study. Therefore, the sample consisted of 29 patients. The participation rate was 85.3%.

Research Type and Questions: This was a cross-sectional study. The following are research:

1. What level of psychological distress and perceived social support do chronic hemodialysis patients have?
2. Is there a relationship between psychological distress and social support in chronic hemodialysis patients?

3. What are the factors impacting the psychological distress and social support levels in chronic hemodialysis patients?

Personal Information Form: The personal information form consisted of items on sociodemographic characteristics (age, gender, marital status, education, economic status, etc.) and health history (sources of psychological and social support, etc.)

Kessler Psychological Distress Scale: The Kessler Psychological Distress Scale (K10) was developed by Kessler, et al. and adapted to Turkish by Altun, et al. (13,14). The scale measures depressive symptoms (irritability, hopelessness, sadness, worthlessness, fatigue, etc.) within four weeks. The instrument consists of ten items rated on a five-point Likert-type scale (“1 = none of the time” to “5 = all of the time”). The total score ranges from 10 to 50, with higher scores indicating higher levels of psychological distress. In the present study, K10 had a Cronbach’s alpha of 0.90.

Multidimensional Scale of Perceived Social Support Scale: The Multidimensional Scale of Perceived Social Support (MSPSS) was developed by Zimet, et al. and adapted to Turkish by Eker, et al. (15,16). The scale consists of 12 items rated on a seven-point Likert-type scale (“1= very strongly disagree” to “7 = very strongly agree”). The instrument has three subscales:

family, friends, and significant other. The total score is the sum of the three subscale scores. The total score ranges from 12 to 84, with higher scores indicating higher perceived social support. In the present study, the total scale had a Cronbach's alpha of 0.837, while the subscales had a Cronbach's alpha of 0.732 to 0.882. These scores indicated that the scale was highly reliable.

Statistical Analysis: The data were analyzed using the Statistical Package for Social Sciences (SPSS, v. 22.0) at a significance level of 0.05. Frequency, percentage, minimum, maximum, mean, standard deviation, mode, and median values were used for nominal and ordinal variables. The Kolmogorov-Smirnov test was used for normality testing. Spearman's correlation coefficient was used to determine the relationship between scale scores. To test the existence of an association between the characteristics of patients and scores of perceived social support and psychological distress the Kruskal-Wallis or the Mann-Whitney U test was performed.

Ethics Committee Approval: The study was approved by the Scientific Research

Ethics Committee of X University (Date: 02.03.2020, decision no:05/08). Permission was obtained from the Provincial Health Directorate of X Governorship (Date: 28.08.2020, decision no:97526123/60402). Informed consent was obtained from all participants. The study was conducted according to the ethical principles outlined by the World Medical Association's Declaration of Helsinki.

RESULTS

Table 1 shows all participants' sociodemographic characteristics (N=29). Participants had a mean age of 60.66 ± 10.66 years. More than half the participants were younger than 65. More than half the participants were men (65.5%) and married (79.3%). Most participants had primary school degrees (82.8%). More than half the participants had a middle economic status (55.2%). More than half the participants lived with their spouses and children (75.9%) and had chronic diseases (72.4%). Most participants had dialysis three times a week (79.3%). More than half the participants received social support (72.4%) but did not receive psychological support (72.5%).

Table 1. Demographic characteristics of the participants’.

| Characteristics | | | |
|--|--------------------|-------------------------------------|----------|
| Age, $\bar{X}\pm SD$ | | 60.66 \pm 10.66 (min:46, maks:87) | |
| | | n | % |
| | 65 years and under | 19 | 65.5 |
| | Over 65 years old | 10 | 34.5 |
| Gender | Female | 10 | 34.5 |
| | Male | 19 | 65.5 |
| Marital status | Single | 6 | 20.7 |
| | Married | 23 | 79.3 |
| Education | Primary school | 24 | 82.8 |
| | Middle school | 2 | 6.9 |
| | High school | 3 | 10.3 |
| Economic status | Low | 11 | 37.9 |
| | Middle | 16 | 55.2 |
| | High | 2 | 6.9 |
| Who lives with | Alone | 4 | 13.8 |
| | Spouse and child | 22 | 75.9 |
| | Mother and father | 3 | 10.3 |
| Having another chronic disease | Yes | 21 | 72.4 |
| | No | 8 | 27.6 |
| Frequency of dialysis treatment (weekly) | Two times | 4 | 13.8 |
| | Three times | 23 | 79.3 |
| | Four times | 2 | 6.9 |
| Social support status | Yes | 23 | 72.4 |
| | No | 6 | 27.6 |
| Receiving psychological support (psychotherapy, counseling) | Yes | 8 | 27.5 |
| | No | 21 | 72.5 |

SD: Standard deviation.

Participants had a mean K10 score of 42.65, indicating high levels of psychological distress. They had a mean MSPSS score of

57.06, indicating high levels of perceived social support (Table 2).

Table 2. Kessler Psychological Distress Scale, Multidimensional Scale of Perceived Social Support and sub-dimension scores.

| Variables | Median (Q1-Q3) | Mode | Mean score (SD) | Min. | Max. |
|---------------------------------|---------------------|-------|-----------------|------|------|
| K10 | 46.00 (39.00-48.00) | 47.00 | 42.65 (7.39) | 10 | 50 |
| MSPSS | 59.00 (37.00-81.50) | 84.00 | 57.06 (22.24) | 12 | 84 |
| MSPSS Significant Others | 23.00 (19.00-28.00) | 28.00 | 21.89 (7.37) | 4 | 28 |
| MSPSS Family | 22.00 (4.50-27.50) | 4.00 | 17.58 (9.87) | 4 | 28 |
| MSPSS Friends | 16.00 810.00-28.00) | 10.00 | 17.58 (8.17) | 4 | 28 |

K10: Kessler Psychological Distress Scale; MSPSS: Multidimensional Scale of Perceived Social Support; SD: Standard deviation; Min.: Minimum; Max.: Maximum.

There was a negative correlation between K10 total and MSPSS total and subscale scores (Table 3).

Table 3. Correlation between Kessler Psychological Distress Scale and Multidimensional Scale of Perceived Social Support.

| | Variables | 1 | 2 | 3 | 4 | 5 |
|---|--------------------------|---------|---------|---------|---------|---|
| 1 | K10 | 1 | | | | |
| 2 | MSPSS | -0.300* | 1 | | | |
| 3 | MSPSS Significant Others | -0.290* | 0.809** | 1 | | |
| 4 | MSPSS Family | -0.295* | 0.894** | 0.522** | 1 | |
| 5 | MSPSS Friends | -0.282* | 0.952** | 0.704** | 0.871** | 1 |

K10: Kessler Psychological Distress Scale; MSPSS: Multidimensional Scale of Perceived Social Support; *: $p < 0.05$; **: $p < 0.01$.

A statistically significant difference was found between the gender of the patients and the levels of psychological distress ($p < 0.05$). Female patients had higher psychological distress scores than male patients ($p = 0.019$) (Table 4). There was no statistically significant difference between the other descriptive characteristics and the total score obtained from the psychological

distress scale ($p > 0.05$) (Table 4). In addition, in this study, a statistically significant difference was found between the marital status of the patients and the levels of perceived social support ($p < 0.05$). Patients with married status had a higher perceived social support than patients with single status ($p = 0.038$) (Table 4).

Table 4. Comparison of participants' personal characteristics with K10 and MSPSS.

| Variables | K10 Median (Q1-Q3) | MSPSS Median (Q1-Q3) |
|------------------------|---------------------|----------------------|
| Age | | |
| 65 years and under | 46.00 (37.00-48.00) | 57.00 (38.00-66.00) |
| Over 65 years old | 44.50 (40.00-48.00) | 79.50 (36.00-82.50) |
| U;p | 85.500;0.668 | 74.500;0.353 |
| Gender | | |
| Female | 39.00 (30.25-47.00) | 37.00 (27.25-79.50) |
| Male | 47.00 (42.00-48.00) | 60.00 (42.00-82.00) |
| U;p | 145.500;0.019* | 63.500;0.151 |
| Marital status | | |
| Single | 43.50 (34.75-46.75) | 37.00 (27.25-60.25) |
| Married | 47.00 (39.00-48.00) | 66.00 (40.00-82.00) |
| U;p | 55.000;0.477 | 30.500;0.038* |
| Education | | |
| Primary school | 43.50 (39.00-47.75) | 51.00 (36.00-54.00) |
| Middle school | 48.00 (46.00-48.00) | 62.00 (36.50-82.00) |
| High school | 46.00 (42.00-46.00) | 48.00 (38.00-50.25) |
| χ^2 ;p | 1.950;0.377 | 0.987;0.610 |
| Economic status | | |
| Low | 46.50 (46.00-46.50) | 54.00 (30.00-81.00) |

| | | |
|--|---------------------|---------------------|
| Middle | 47.00 (40.00-48.00) | 65.00 (40.50-81.00) |
| High | 40.00 (33.00-48.00) | 59.00 (36.00-62.50) |
| x²;p | 2.357;0.308 | 1.050;0.592 |
| Who lives with | | |
| Alone | 44.00 (27.00-49.00) | 37.00 (23.25-54.50) |
| Spouse and child | 46.50 (39.00-48.00) | 66.00 (37.50-82.25) |
| Mother and father | 45.00 (37.00-45.00) | 59.00 (57.00-80.25) |
| x²;p | 0.034;0.983 | 3.066;0.216 |
| Having another chronic disease | | |
| Yes | 46.00 (39.00-48.00) | 60.00 (38.00-81.50) |
| No | 44.00 (39.75-48.50) | 48.50 (36.50-79.50) |
| U;p | 86.500;0.905 | 78.500;0.793 |
| Frequency of dialysis treatment (weekly) | | |
| Two times | 47.50 (41.75-48.75) | 53.00 (37.00-77.25) |
| Three times | 42.00 (39.00-48.00) | 60.00 (38.00-82.00) |
| Four times | 46.50 (46.00-46.50) | 40.50 (33.00-61.00) |
| x²;p | 1.313;0.519 | 1.585;0.453 |
| Receiving psychological support (psychotherapy, counseling) | | |
| Yes | 46.00 (22.00-49.00) | 48.00 (19.00-78.00) |
| No | 46.00 (40.00-48.00) | 60.00 (37.00-81.50) |
| U;p | 1.689;0.430 | 57.500;0.405 |

K10: Kessler Psychological Distress Scale; MSPSS: Multidimensional Scale of Perceived Social Support; U: Mann-Whitney U test; x²: Kruskal- Wallis H Test; *:p<0.05

DISCUSSION

Patients with CKD are more likely to experience psychological distress because it is a progressive disease. Biopsychosocial factors play a key role in conceptualizing psychological distress in patients with CKD (17). This study revealed three important results. First, participants had high levels of psychological distress and perceived social support. Second, there was a correlation between perceived social support and psychological distress. Third, a significant difference was found between the gender of the patients, the levels of psychological distress and marital status of the patients, and the levels of perceived social support.

Patients with CKD have more psychiatric support because dialysis significantly

affects their quality of life (18). Hagita, et al. found that patients undergoing hemodialysis had psychological reactions, such as fear, stress, shock, depression, crying, sadness, etc. (19). Al-Ghabeesh, et al. reported moderate psychological distress among hemodialysis patients (20). Research shows that about seven in ten patients with CKD experience psychological distress (10,11,20,21). More than half of our participants did not receive psychological support and had high levels of psychological distress (67.7%). Most chronic hemodialysis patients experience psychological distress because they have other chronic diseases and have difficulty meeting their personal and social needs.

Patients with CKD need more social support because hemodialysis causes changes in their social interactions (19). Sources of social support are family members, friends, teachers, or healthcare professionals. Social support helps patients cope with their conditions and significantly promotes their well-being (22,23). In this study, the patients' mean perceived social support score was 57.06 ± 22.24 , above the moderate level. Similarly, in studies conducted with chronic hemodialysis patients, the social support level of patients was found to be high (14,25,26).

Pan, et al. determined that hemodialysis patients with more social support had fewer depressive symptoms and better mental quality of life (8). Wang, et al. detected a negative correlation between social support and psychological distress in end-stage patients with CKD (11). Lilympaki, et al. revealed that hemodialysis patients who received social support from significant others, family members, and friends had low levels of depression (27). Our results showed a negative correlation between perceived social support and psychological distress, which is consistent with the literature. Social support protects chronic hemodialysis patients against psychological distress.

It was determined that the median psychological distress scale score was

higher in female patients included in the study than in male patients ($p < 0.05$). Similar to the results of the studies performed by Gorji et al. and Gerogianni et al. it was found that there is a significant difference between the gender of hemodialysis patients and the psychological distress (28, 29). In women, high levels of psychological distress can be attributed to factors including hormonal factors, marriage, raising children, social and cultural constraints.

In the study, a statistically significant difference was found between the total score obtained from the patient's perceived social support and marital status. The perceived social support median scores of the patients with married were higher. This is an expected result. Research has shown that being married affects social support in a positive way (24,30).

CONCLUSION AND RECOMMENDATIONS

Chronic hemodialysis impacts every life aspect of patients and chronic hemodialysis patients have high levels of psychological distress. Perceived social support affects psychological distress. This study showed that psychological distress was associated with lower perceived social support, female patients have higher psychological distress and married patients were more likely to

have higher perceived social support. Social support can be changed and regulated in the early period. Therefore, nurses should identify their patients' sources of social support and develop psychoeducational programs to improve them. Health professionals should develop interventions to meet their patients' psychological needs and encourage them to express their feelings to ensure that they experience low levels of psychological distress. In addition, future studies should investigate whether sociodemographic and clinical characteristics in chronic hemodialysis patients may influence perceived social support and psychological distress. It is recommended to conduct multicenter studies involving a larger sample group.

Ethical Approval: This study was approved by the Scientific Research Ethics Committee of XX University (Date: 02.03.2020, decision no:05/08). Permission was obtained from the Provincial Health Directorate of X Governorship (Date: 28.08.2020, decision no:97526123/60402). Informed consent was obtained from all participants. The study was conducted according to the ethical principles outlined by the World Medical Association's Declaration of Helsinki.

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