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Determination of the Effect of Perceived Social Support on Adherence to Treatment in Hemodialysis Patients

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ABSTRACT

Aim: In this study, it was aimed to determine the effect of perceived social support on treatment compliance in patients undergoing hemodialysis treatment.

Methods: The research was conducted with 64 dialysis patients who were treated in the hemodialysis unit of a district state hospital between February 10, and April 10, 2022. In the study, all dialysis patients who met the inclusion criteria and agreed to participate in the study were included, without sampling.

Results: Considering the answers given by the individuals participating, 81.3% of the participants always take their medicines on time, 53.1% of them never forget to take their medicines, 73.4% of them do not stop taking their medicines even when they feel good, and 59.4% of them when they go on a trip. While the relationship between social support level and gender was statistically significant in the study. According to the multiple regression analysis regarding the variables that affect the multidimensional social support levels of the participants, it is seen that there is a significant relationship between the variables of gender, forgetting to take the medication, quitting the medication when you feel good, and forgetting to take the medication with you when you go on a trip, and multidimensional social support scores ($p < .05$).

Conclusion: As a result, the vast majority of patients comply with the treatment; It was found that the gender variable was associated with the level of social support. In addition, it is seen that social support iseffective in adherence to treatment.

Key Words: Adherence, Hemodialysis, Social Support.

1. INTRODUCTION

Chronic kidney disease is a condition characterized by a progressive and irreversible loss of nephrons leading to a decrease in glomerular filtration rate, resulting in the impairment of fluid-electrolyte balance and metabolic-endocrine functions of the kidneys, which can arise from multiple etiological factors (1). Due to low awareness levels among individuals and a low rate of early diagnosis, the disease can progress to end-stage renal failure, which is irreversible. Moreover, the increasing incidence over time, decreasing quality of life, high morbidity and mortality rates, poor prognosis of the disease, and the high cost of renal replacement therapies have transformed it into a significant public health issue (2, 3).

According to the Turkish Nephrology Society's 2019 data, hemodialysis is the most preferred renal replacement therapy method, accounting for 73.2% of cases in the treatment of end-stage renal failure. The hemodialysis treatment process, besides its life-saving effects, brings along a series of physiological, psychological, and economic problems related to the disease such as the obligation to come to the clinic

on certain days of the week, fears, sexual dysfunction, dependency on a device for treatment, fear of death, loss of economic security, distortion in body image and self-esteem, and becoming particularly dependent on family members over time (4). In patients, the inability to work, social detachment process, changes in role performance, and lack of adequate social support also contribute to the development of psychiatric disorders. If these psychological problems are not addressed, they can directly impact the course of the physical illness negatively. Therefore, taking a holistic approach to patients undergoing hemodialysis treatment, managing the treatment regimen and the emotional and psychosocial conditions that may arise during the process, and facilitating their integration into daily life are important for providing quality care (5).

Providing necessary social support and effectively managing the adaptation process plays a significant role in maintaining an individual's health during the hemodialysis treatment process. Social support, especially from family, friends, and the individual's close circle, as well as their collaboration in treatment, will contribute to the patient's easier adaptation to the treatment process (6). In a study by Silva et al. (2016), it was reported that individuals with social support could manage their dialysis treatments more easily and achieve more successful results in areas such as regular nutrition and weight control (7). In another study, 134 patients undergoing hemodialysis were evaluated, and a statistically significant relationship was found between their psychosocial adaptation and the level of social support they received (8). Although there are existing studies examining the relationship between treatment adherence and perceived social support in hemodialysis patients, this study provides a more detailed analysis of the different dimensions of social support and their impact on treatment adherence. In this regard, the study contributes to a better understanding of the role of social support mechanisms in the care process of hemodialysis patients and helps fill a gap in the literature. This study aimed to determine the effect of perceived social support on treatment adherence in patients undergoing hemodialysis. To achieve this goal, the following questions were addressed:

1. What is the perceived level of social support among participants?
2. Do participants' perceived levels of social support differ significantly according to descriptive characteristics?
3. Does the multidimensional level of social support affect participants' treatment adherence?

2. MATERIALS AND METHODS

2.1. Research Design

This study was conducted in a descriptive manner. The research was carried out with patients undergoing hemodialysis treatment at a district state hospital's hemodialysis unit between February 10 and April 10, 2022. The population of the study consists of dialysis patients receiving treatment at a district state hospital's hemodialysis unit. The sample size was calculated based on the number of patients (N: 64) undergoing treatment at the state hospital's hemodialysis unit with a 99% power and a 5% margin of error in https://www.calculator.net/sample-size-calculator.html web site. The desired sample size was fully reached (n: 64). In the research, no sampling was carried out, and all dialysis patients who met the inclusion criteria and agreed to participate in the research were included. The inclusion criteria for the research included individuals who had been undergoing hemodialysis treatment for at least one year, agreed to participate in the study, and had no communication barriers. Data were collected face-to-face by researchers while adhering to social distancing and mask rules. Individuals who did not want to participate in the research, did not answer all questions during the interview, or withdrew from the study were excluded. STROBE checklist was followed in reporting the study.

2. 2. Data Collection

Data were collected through face-to-face interviews by researchers while adhering to mask and distance

rules. Participants were asked questions while receiving treatment in their beds. The approximate time to complete the questionnaire was 8-10 minutes.

2.3. Data Collection Tools

2.3.1. Personal Information Form

Developed by researchers through literature review (9-11). The form includes questions about participants' age, gender, marital status, education level, occupation, duration of dialysis treatment, and presence of other chronic diseases.

2.3.2. Treatment Adherence Form

Developed by researchers through literature review (12-14). The form includes questions about participants' adherence to taking medications on time, forgetting to take medications, stopping medication when feeling well, and forgetting to take medications when traveling. The Treatment Adherence Form was evaluated by three experts in nursing to ensure content validity. For expert evaluations, the Content Validity Index (CVI) was calculated, and an agreement rate of 0.94 was obtained, indicating a high level of consensus among experts.

2.3.3. Multidimensional Perceived Social Support Scale

This scale was developed by Zimet et al. in 1988, and its Turkish validity and reliability were established by Eker et al. in 2001 (15). The scale consists of 12 items with a seven-point Likert scale. The lowest possible

Table 1. Distribution of Demographic Characteristics and Treatment Adherence of Hemodialysis Patients (N = 64)

Demographic Characteristics	**$\bar{X}$ ± Sd**	
Age	63.09 ± 9.84	
Dialysis duration	4.98 ± 4.65	
	N	%
Gender		
Male	45	70.3
Female	19	29.7
Education level		
Primary school	50	78.2
Middle school	7	10.9
High school	5	7.8
University and above	2	3.1
Occupation		
Retired	41	64.0
Homemaker	18	28.1
Worker	4	6.3
Civil servant	1	1.6
Presence of other chronic diseases		
Yes*	43	67.2
No	21	32.8
Do you take your medications on time?		
Always	52	81.2
Sometimes	8	12.5
Rarely	1	1.6
Never	3	4.7
Do you ever forget to take your medication?		
Sometimes	18	28.1
Rarely	12	18.8
Never	34	53.1
Do you ever stop taking your medication when you feel well?		
Always	1	1.6
Sometimes	5	7.8
Rarely	11	17.2
Never	47	73.4
Do you ever forget to take your medications when you travel?		
Always	1	1.6
Sometimes	14	21.9
Rarely	11	17.1
Never	38	59.4

* Diabetes (28-%43.7), Hypertension (22-%34.3), Heart disease (7-%10.9).

Table 2. Comparison of Demographic Characteristics of Hemodialysis Patients with Multidimensional Social Support Scale Scores

Demographic Characteristics	Multidimensional Social Support Scale	
Age		
< 50 year (n=32)	60.3 ± 20.89	KW = 0.608
50-60 year	64.3 ± 21.15	*p* = .738
> 60 year	67.1 ± 16.45	
Gender		
Male (n=45)	56.4 ± 21.38	**Z = -2.127**
Female	67.0 ± 18.43	***p* = .033**
Education level		
Primary school	62.8 ± 19.60	KW=4.455
Middle school	63.2 ± 23.22	*p* =.108
High school	75.6 ± 18.22	
University and above	64.5 ± 23.33	
Occupation		
Homemaker	58.0 ± 20.74	KW = 5.545
Civil servant	58.7 ± 29.46	*p* = .136
Retired	66.4 ± 18.28	
Dialysis duration		
<5 year	66.9 ± 19.38	KW = 2.518
5-10 year	59.9 ± 20.91	*p* = .284
> 10 year	60.5 ± 15.54	
Presence of other chronic diseases		
Yes	61.8 ± 19.64	Z = -1.633
No	68.1 ± 19.88	*p* = .103

KW=Kruskal Wallis ; Z=Mann Whitney U Test, p< .05

score from the scale is 12, and the highest score is 84. The higher the score obtained from the scale, the higher the perceived social support level. The reliability coefficients of the original scale range from .80 to .95 (15). In this study, the Cronbach's Alpha value of the scale was found to be .98.

2.4. Data Analysis

Statistical analysis was performed using SPSS 21 software. Descriptive statistics were used to analyze the data. Since the data did not show normal distribution, Kruskal-Wallis and Mann-Whitney U tests were used to determine the differences between groups for continuous variables. A significance level of $\alpha = .05$ was accepted. Multiple linear regression analysis was conducted to determine the relationship between descriptive characteristics and treatment adherence and the multidimensional level of social support. Additionally, Cronbach's alpha value was examined for the measurement reliability of the scale used.

3. RESULT

The descriptive analysis results for the demographic characteristics and treatment adherence are presented in Table 1.

When the distribution of participating dialysis patients' personal characteristics is examined, it is observed that the mean age is 63.09 ± 9.84, dialysis duration is 4.98 ± 4.65 years, 70.3% are male, 78.1% have a primary school education, 64.1% are retired, and 67.2% have another chronic disease besides kidney disease. It is also noted that 81.3% of the participants always take their medications on time, 53.1% never forget to take their medications, 73.4% never stop taking their medication even when they feel well, and 59.4% never forget to take their medications when traveling (Table 1).

When Table 2 is examined, a statistically significant relationship is found between social support level and gender ($p = .033$), while no significant difference is found between age, education level, occupation, dialysis duration, and the presence of another chronic disease ($p > .05$).

The multiple regression analysis regarding the effect of responses to medication adherence questions on multidimensional social support scores is presented

Table 3. Regression Analysis of Treatment Adherence and Multidimensional Social Support Scale in Hemodialysis Patients (n=64)

Variables	Multidimensional Social Support Scale			
	R	**Adjusted R^2**	**F**	***p***
	.62	.34	9.12	***.000***
	B	β	*t*	*p*
Taking medications on time	-2.64	-0.09	-0.76	.440
Forgetting to take medications[a]	13.57	0.59	5.88	***.000***
Stopping medication when feeling well[a]	12.02	0.42	3.70	***.000***
Forgetting to take medications when traveling[a]	11.60	0.51	4.71	***.000***

*$p < .001$ **Never

in Table 3. Accordingly, there is a significant relationship between forgetting to take medications, stopping medication when feeling well, forgetting to take medications when traveling, and multidimensional social support scores. It is observed that the responses to medication adherence questions have a determinant effect of 34% on social support scores ($R^2 = .34$, $p = .000$).

4. DISCUSSION

The success of patients in treatment is directly related to their adherence to treatment. In patients undergoing hemodialysis treatment, adherence to treatment can reduce various complications, morbidity, and mortality rates. It has been determined that the adherence to treatment of hemodialysis patients varies between 8.5% and 86% worldwide, while the non-adherence rate varies between 15.4% and 50.2% (11, 13, 14). Therefore, in this study, the effect of perceived social support on treatment adherence in patients undergoing hemodialysis treatment was examined.

When the relationship between descriptive characteristics and multidimensional social support levels was examined in this study, it was found that the social support levels of males were statistically higher than those of females. In contrast to our study, Büyükbayram et al. (2021) found in their study that females had higher overall social support levels compared to males (6). Although the higher proportion of male participants (70.3%) in our sample may have contributed to this finding, other potential factors should also be considered. For instance, traditional gender roles and societal expectations may lead to differences in the way men and women perceive and receive social support. In some cultures, men may have stronger social ties outside the family, such as workplace relationships and friendships, which can contribute to a higher perceived social support level. Additionally, women may experience more caregiving responsibilities and emotional burdens, which could affect their perception of received social support.

When evaluating the findings of our study, it was found that nearly all participants took their medications on time. Similarly, in a study by Biçer and Karabulutlu (2020), it was found that 75.4% of patients undergoing hemodialysis treatment regularly used their medications (16). In a study by Yılmaz et al. (2020), when asked about their adherence to treatment, most participants stated that they did not miss doctor appointments, underwent routine check-ups, and regularly took their medications. Additionally, it was reported that their adherence to treatment was high. 83.6% of patients regularly went for health check-ups as recommended by their doctors, 87.7% underwent routine checks such as blood tests and blood pressure measurements when their doctors requested, and 94.5% regularly took

their medications (13). Similarly, the findings of the study by Shrestha et al. (2020) indicated that nearly half of the participants had a good level of adherence to medication therapy (17).

It was determined that more than half of the participants never forgot to take their medications even when they felt well or when they traveled. Studies on this topic have similarly indicated that patients do not forget to take their medications and regularly use them (11, 18, 19). Parallel to our study, Thapa et al. (2019) found in their study that over half (54.1%) had moderate adherence to treatment, and 31.2% had good adherence (20). In another study, it was found that 55.5% of patients undergoing hemodialysis treatment had a good level of adherence to treatment, while 40.5% had a moderate level of adherence (21). This situation can be attributed to the severity of the disease, the need for strict monitoring, and being more at risk due to the pandemic. Additionally, the success of treatment in individuals with chronic diseases is largely associated with medication adherence (13).

Social support is important in helping dialysis patients cope with physical and psychological problems. According to the regression analysis conducted in the study, adherence to treatment was determined to be determinative by 34% on the multidimensional social support level. Therefore, it can be concluded that individuals who adhere to treatment better have higher levels of social support. Similar results have been reported in the literature (22-23). It is stated that providing support from family and social circles during the treatment process can contribute to the positive outcome of the treatment (24). Considering all these findings, healthcare professionals should consider the levels of social support when evaluating patients' adherence to treatment and support patients in terms of education and care regarding the importance of both treatment adherence and social support. Additionally, considering that nurses are the healthcare professionals who communicate most with patients during hemodialysis, they can also consider practices to increase treatment adherence and social support levels while providing care.

This study has some limitations that should be considered when interpreting the results. First, the study was conducted in a single center, which may limit the generalizability of the findings to a broader population. Second, the data were collected through self-reported measures, which may introduce recall bias or social desirability bias. Additionally, factors such as the duration of hemodialysis treatment, comorbidities, and socioeconomic status, which could potentially influence treatment adherence and perceived social support, were not extensively analyzed in this study. Future research with larger and more diverse samples, including a broader range of variables, may provide a more comprehensive understanding of these relationships.

4. CONCLUSION

This research aimed to determine the effect of perceived social support on treatment adherence in patients undergoing hemodialysis treatment. It was found that the majority of patients adhered to treatment, and the variable of gender was associated with the level of social support. Additionally, it was observed that patients' descriptive characteristics were related to treatment adherence and the level of social support. To increase the generalizability of the study, it is recommended to conduct it with a larger sample size. On the other hand, considering that patients express their problems most to nurses, receive the most counseling for problems, and have the easiest access to nurses as healthcare professionals, it is suggested that education and practices related to treatment adherence and social support be more integrated into their care.

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Conflicts of Interest: The authors declared that there is no conflict of interest.

Ethical Statement: The Human Rights Declaration of Helsinki conducted the study process. Ethical approval was obtained for this study from the Non-

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