Journal of Health Sciences

Research Article
10.34108/eujhs.1689192

Imprint:
Volume: 35(1)
Year: 2026
Page: 130-137

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Received: 5/1/2025
Accepted: 2/2/2026

Citation:
Demir Dikmen, R., Balcı Akpınar, R., Comfort In Patients Receiving Hemodialysis Treatment: A Sample from Eastern of Türkiye. *Journal of Health Sciences*, 2026;35(1):130-137 https://doi.org/*10.34108/eujhs.1689192*

Comfort In Patients Receiving Hemodialysis Treatment: A Sample from Eastern of Türkiye

Abstract

There may be many factors that ensure the comfort of hemodialysis treatment. A combination of disease, treatment complexes and general comforts can be found. It is important to regularly evaluate the comfort levels of hemodialysis patients. Determining the comfort level of hemodialysis patients can significantly improve the quality of nursing care. Chronic kidney disease, hemodialysis treatment, and associated symptoms can negatively impact comfort in hemodialysis patients. The aim of this study is to determine the comfort levels and associated factors of patients undergoing hemodialysis treatment. This descriptive and cross-sectional study was performed with 86 hemodialysis patients who received treatment in the dialysis unit of a state hospital in Bingöl, eastern Türkiye. The study data were obtained with the "Descriptive Data Form" and "Hemodialysis Comfort Scale Version II". The average age of the participants was determined as 56.48±14.43. It was determined that the average score of the patients on the hemodialysis comfort scale was 74.97±17.28. Found that people receiving hemodialysis treatment through fistula have a higher level of comfort and difference makes sense (p<0.05). Necessary measures should be taken to increase the comfort levels of those receiving hemodialysis treatment. The comfort of these patients should be evaluated regularly. Our results indicate that hemodialysis patients' needs to be improved. Factors that compromise comfort in hemodialysis patients should be identified, and comfort levels should be increased through planned nursing interventions.

Keywords: Chronic kidney failure, patient comfort, renal dialysis.

Hemodiyaliz Tedavisi Alan Hastalarda Konfor: Türkiye'nin Doğusundan Bir Örnek

Öz

Hemodiyaliz tedavisinin konforunu sağlayan birçok faktör olabilir. Hastalık, tedavi kompleksleri ve genel konforun bir kombinasyonu bulunabilir. Hemodiyaliz hastalarında konfor düzeyinin düzenli olarak değerlendirilmesi önemlidir. Hemodiyaliz hastalarında konfor düzeyinin belirlenmesi hemşirelik bakımının kalitesini artırmaya yönelik önemli katkılar sağlayabilir. Hemodiyaliz hastalarında kronik böbrek hastalığı, hemodiyaliz tedavisi ve bunlara bağlı ortaya çıkan semptomlar konforu olumsuz etkileyebilir. Bu çalışmanın amacı, hemodiyaliz tedavisi gören hastaların konfor düzeylerini ve ilişkili faktörleri belirlemektir. Tanımlayıcı ve kesitsel tipteki bu çalışma, Türkiye'nin doğusunda yer alan Bingöl ilindeki bir devlet hastanesinin diyaliz ünitesinde tedavi gören 86 hemodiyaliz hastası ile gerçekleştirildi. Çalışma verileri "Tanımlayıcı Bilgi Formu" ve "Hemodiyaliz Konfor Ölçeği Versiyon II" ile elde edildi. Katılımcıların yaş ortalaması 56.48±14.43 olarak belirlendi. Hastaların hemodiyaliz konfor ölçeğinden aldıkları ortalama puanın 74.97±17.28 olduğu belirlendi. Fistül yoluyla hemodiyaliz tedavisi gören bireylerin konfor düzeyinin daha yüksek olduğu ve farkın anlamlı olduğu (p<0.05) belirlendi. Hemodiyaliz tedavisi görenlerin konfor seviyelerinin artırılması için gerekli önlemler alınmalıdır. Bu hastaların konforu

düzenli olarak değerlendirilmelidir. Sonuçlarımız hemodiyaliz hastalarının konforlarının geliştirilmesi gerektiğine işaret etmektedir. Hemodiyaliz tedavisi alan hastalarda konforu bozan etmenler belirlenmeli ve konfor düzeyleri planlı hemşirelik girişimleri ile artırılmalıdır.

Anahtar kelimeler: Kronik böbrek yetmezliği, hasta konforu, böbrek diyalizi.

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Introduction

The comfort theory developed by Katharine Kolcaba is based on the comfort function, which is one of the functions of the nursing discipline. Kolcaba explained individual comfort needs and the components of the concept of comfort for nursing as; relief, relaxation, and overcoming problems. A patient whose comfort is not met in these areas feels a deficiency; when their needs are met, the deficiency disappears. According to Kolcaba, comfort is "an expected result with a complex structure within the physical, psycho-spiritual, social and environmental integrity related to providing assistance, peace and overcoming problems related to the needs of the individual".[1,2] Comfort theory offers a simple and holistic model for determining patient needs, creating interventions to meet these needs, and evaluating the effects of these interventions.[3] One of the treatment methods applied to individuals with chronic renal failure is hemodialysis (HD). Patients face many physiological, psychological and social problems such as dependence on the HD machine and treatment team, physical disabilities, changes in body image, anxiety about the future, decrease in social relationships and restriction of work life. These problems experienced by patients negatively affect their daily lives and comfort.[4-6] HD is also the most commonly applied renal replacement treatment method in Türkiye.[7]

Although hemodialysis helps patients maintain their lives, it cannot alleviate the symptoms caused by renal dysfunction. Some symptoms related to the treatment are observed in patients receiving hemodialysis.[8] It is reported that the symptoms created by HD treatment have an effect on the comfort levels of patients.[9] Meeting the comfort needs of patients can provide faster recovery.[10] Providing patient comfort is an important goal of nursing care. Providing good care, the way of managing information, the search for meaning in life, family support and the need to control life are important predictors of providing comfort. Patients' sociocultural, physical, environmental and psychospiritual problems affect their comfort.[11] Kolcaba realized that there was a lack of information about providing comfort in patient care and tried to explain what comfort care is and how vital it is in terms of patient outcomes.[1] This study was conducted to determine the comfort levels of patients receiving hemodialysis treatment in a state hospital located in the east of Türkiye.

Research Questions

What are the comfort levels of patients receiving hemodialysis treatment?
Do sociodemographic factors affect the comfort levels of patients receiving hemodialysis treatment?
Do disease-related factors affect the comfort levels of patients receiving hemodialysis treatment?

Materials and Methods

Type of the Study

The study was performed in a descriptive and cross-sectional design.

Population-sample of Study

The study was conducted in a hemodialysis unit between November-December 2024. No sample selection was made in the study, and the entire universe was included in the study. The study population consisted of 102 patients. Six patients did not want to participate in the study. Ten additional patients were excluded from the study due to acute renal failure. The study ultimately included 86 patients.

Inclusion Criteria

Being open to communication,
Being 18 years old or older
Receiving HD treatment for at least 3 months.

Exclusion Criteria

Those who receive treatment due to acute renal failure.

Data Collection Tools

Descriptive data form

This form contained twelve questions (age, marital status, gender, educational status, employment status, income level, cohabitants, caregiver presence, absence or presence of chronic disease, vascular access, previous kidney transplantation, and the time since hemodialysis treatment).

Hemodialysis Comfort Scale Version II (HDCS-II)

The scale which was developed by Şahin and Pakyüz, is scale consisting of 26 items. HDCS-II consists of six sub-dimensions (psychospiritual relief, physical relief, physical refreshment, environmental empowerment, psychospiritual empowerment, sociocultural relief). The scale score range is 26–130 points. As the score decreases, the comfort level decreases and the scale score increases, the comfort level increases. Cronbach's alpha of the scale was determined as 0.79.[12] In this study, Cronbach's alpha of the scale was found to be 0.78.

Collection of Data

Data were collected face-to-face by researchers in the hemodialysis unit. Patients were asked survey questions, and their responses were marked in the appropriate box. Each patient interview took approximately 20 minutes. No problems were encountered during data collection.

Evaluation of Data

SPSS 25.0 (SPSS Inc., Chicago, IL, USA) program was utilized in the analysis of the data. $P < 0.05$ was accepted as the level of significance in the analyses. Internal consistency analysis of the scales was used to determine the Cronbach's α. The normality assumption of the data was evaluated by the Kolmogorov-Smirnov test, examination of Kurtosis and Skewness values, and analysis of histogram graphics. The data conformed to a normal distribution. Descriptive statistical methods (number, percentage, standard deviation, mean) and parametric tests (Student's t-test for comparison of two independent groups and one-way ANOVA for comparison of three or more independent groups) were used to analyze the data.

Results

The participants' mean age was found to be 56.48±14.43, and the average duration of hemodialysis treatment was 7.22±4.97 years. It was determined that more than half of the participants (54.7%) were aged 58 and above. 53.5% of patients were male, 65.1% were married and 41.9% could not read. In addition, it was found that 73.3%have a low income level and 95.3% live with spouses and children. 76.7% were treated with fistulas and 5.8% had previously been transplanted with kidneys (Table 1).

Table 1. Descriptive characteristics of the patients

Characteristics	Number (n)	Frequency (%)
Age range		
25-35	10	11.6
36-46	13	15.1
47-57	16	18.6
58 and above	47	54.7
Gender		
Male	46	53.5
Female	40	46.5
Marital status		
Married	56	65.1
Single	30	34.9
Educational background		
Illiterate	36	41.9
Primary school	31	36.1
Middle school / College and above	19	22.1
Working status		
Working	5	5.8
Not working	81	94.2
Income status		
Income less than expenses	63	73.3
Equal income-expenses	20	23.3
More income than expenses	3	3.5
Cohabitants		
Only	4	4.7
Wife and child	82	95.3
Caregiver presence		
There is a caregiver	82	95.3
No caregiver	4	4.7
Other chronic disease conditions		
Yes	65	75.6
No	21	24.4

Mode of entry into hemodialysis		
Fistula	66	76.7
Catheter	20	23.3
Previous kidney transplantation		
Yes	5	5.8
No	81	94.2
Duration of hemodialysis treatment		
3 month- 5 year	40	46.5
6-10 year	22	25.6
11-15 year	20	23.3
16 year and above	4	4.7
Age (years) Mean±SD	56.48±14.43	
Year of hemodialysis Mean±SD	7.22±4.97	

SD: Standard deviation

The patients' hemodialysis comfort scale mean score was determined to be 74.97 ± 17.28. When the sub-dimension scores were examined, it was determined that they received 12.75 ± 3.72 points from the physical relief sub-dimension, 9.87 ± 4.50 points from the physical refreshment sub-dimension, 27.90 ± 10.37 points from the psychospiritual relief sub-dimension, 10.47 ± 5.96 points from the psychospiritual empowerment sub-dimension, 4.56 ± 2.07 points from the environmental empowerment sub-dimension, and 9.39 ± 3.22 points from the sociocultural relief sub-dimension (Table 2).

Table 2. HDCS-II of patients' score averages

	Mean±SD	**Min**	**Max**
HDCS-II total	74.97 ±17.28	30	130
Physical relief	12.75±3.72	5	20
Physical refreshment	9.87±4.50	4	20
Psychospiritual relief	27.90±10.37	9	45
Psychospiritual empowerment	10.47±5.96	4	18
Environmental empowerment	4.56±2.07	2	8
Sociocultural relief	9.39±3.22	3	15

Abbreviations: HDCS-II, Hemodialysis Comfort Scale Version II ; SD: Standard Deviation; Min: Minimum; Max: Maximum

The comparison of patients' sociodemographic characteristics and mean comfort scale scores is presented in Table 3. It was observed that there was no significant difference (p>0.05) in terms of age range, gender, marital status, employment status, education level, income level, individuals they live with, presence of a caregiver, presence of an additional chronic disease, prior kidney transplantation status, and duration of hemodialysis treatment. However, people treated with fistula hemodialysis were found to have a higher level of comfort and difference that made sense (p <0.05) (Table 3).

Table 3. Relationship between sociodemographic characteristics and mean comfort scale scores (n=86)

Variables	**Number**	**Mean**	**SD**	***t*/F*****	***P***
Age range					
25-35	10	77.10	16.08	F=0.674	0.570
36-46	13	76.00	15.72		
47-57	16	69.43	13.48		
58 and above	47	76.12	19.09		
Gender					
Male	46	75.73	18.12	t=0.436	0.664
Female	40	74.10	16.45		
Marital status					
Married	56	72.62	19.20	t=-1.744	0.050
Single	30	79.36	12.09		
Educational background					
Illiterate	36	71.66	16.92	F=1.148	0.322
Primary school	31	77.09	17.95		
Middle school / College and above	19	77.78	16.70		
Working status					
Working	5	77.60	29.14	t=0.348	0.729

Not working	81	74.81	16.57		
Income status					
Income less than expenses	63	74.00	16.27	F=2.626	0.078
Equal income-expenses	20	80.55	19.61		
More income than expenses	3	58.33	8.96		
Cohabitants					
Only	4	74.00	14.39	t=-0.115	0.909
Wife and child	82	75.02	17.49		
Caregiver presence					
There is a caregiver	82	74.85	17.54	t=-0.297	0.707
No caregiver	4	77.50	12.39		
Other chronic disease conditions					
Yes	65	74.87	17.06	t=0.094	0.926
No	21	75.28	18.39		
Mode of entry into hemodialysis					
Fistula	66	77.25	17.38	t=2.276	0.01¶
Catheter	20	67.45	15.02		
Previous kidney transplantation					
Yes	5	75.00	21.64	t=0.003	0.998
No	81	74.97	17.15		
Duration of hemodialysis treatment					
3 month- 5 year	40	72.22	17.72	F=1.388	0.252
6-10 year	22	78.54	17.85		
11-15 year	20	74.05	11.40		
16 year and above	4	87.50	30.30		

¶*P*<0.05, statisticaally significant, *Independent sample t-test, **One-Way ANOVA, SD: Standard Deviation

Discussion

The findings of this study, which evaluated the comfort of patients receiving HD treatment, were discussed with the literature. In this study, the mean comfort score of patients receiving hemodialysis treatment was determined to be 74.97±17.28. It can be said that the patients' comfort levels were moderate. Dikmen and Aslan reported in their study that the comfort levels of patients receiving HD treatment were close to moderate.[9] Similarly, Alkın Demir and Özer found that the comfort levels of patients receiving hemodialysis treatment were moderate in their research.[13] Gülhan Güner et al. also determined that the comfort levels of HD patients were moderate in their study.[14] Kılıç Akça and Baykan reported that the comfort levels of HD patients were moderate.[15] Yanmış and Mollaoğlu also found that the comfort levels of HD patients were moderate in their research.[16]

In contrast, Bilgiç and Cebeci determined in their study with hemodialysis patients that the comfort levels of the patients were above average.[17] In this study, the predominance of individuals aged 58 and above (54.7%) may have contributed to the lower comfort levels. This is because advancing age may lead to a decrease in self-care capacity. Furthermore, the high number of illiterate individuals (41.9%) indicated a generally low level of education. A very low level of education may result in insufficient understanding of the disease and its treatments. Additionally, inadequate comprehension of the symptoms caused by chronic kidney failure and HD treatment and the inability to effectively use coping strategies may also contribute to a decrease in patients' comfort levels. Most of the participants do not work in any job and their income level is low. These situations negatively affect comfort in many ways. When fighting a disease with dietary restrictions, it is thought that it is also effective to have difficulty in getting quality food, to restrict social support mechanisms due to financial deficiencies and unemployment.

When examined based on demographic characteristics, it was found that younger individuals had higher comfort levels, though this was not statistically significant. Kılıç Akça and Baykan reported that older hemodialysis patients had lower comfort levels, albeit not significantly.[15] Similarly, Gülhan Güner et al. determined that younger hemodialysis patients had higher comfort levels, though this difference was not statistically significant.[14] On the other hand, Yanmış and Mollaoğlu found in their study with hemodialysis patients that the comfort levels of younger patients were significantly higher.[16] It can be suggested that the tendency of older HD patients to have higher degrees of physical and cognitive impairment negatively affects their comfort levels. Factors associated with aging, such as comorbidities, polypharmacy, higher hospitalization rates compared to younger populations, and frequent use of healthcare services, may explain the relationship between advanced age and reduced comfort.[18] Comorbidities, polypharmacy, and increased hospitalization rates, which are more common in older age groups, may have negatively impacted

comfort. Furthermore, patients with lower education levels may struggle to understand the illness, treatments, and associated symptoms, potentially limiting coping skills and self-care. These factors are thought to impact comfort.

In this study, it was observed that male patients had higher comfort levels, though the difference was not statistically significant. Similarly, Kılıç Akça and Baykan reported that male hemodialysis patients had higher comfort levels, though not significantly so.[15] However, Yanmış and Mollaoğlu found that male patients receiving hemodialysis treatment had significantly higher comfort levels.[16] The fact that women undertook all the tasks such as housework, patient care and child care in the region where the study was carried out may have affected their comfort levels.

Individuals treated with hemodialysis through fistula were found to have a higher level of comfort and a statistically significant difference. Melo et al. found in their study with HD patients that those with fistulas had higher comfort levels, although the difference was not statistically significant.[19] Catheters used for HD treatment are associated with complications such as thrombosis and infection, which can lead to increased morbidity and mortality.[20] Complications related to catheters also contribute to frequent hospitalizations.[20] These factors may reduce patient comfort. Complications caused by the use of catheters and the constant feeling of discomfort in the area where it is installed, restricting hygiene practices such as the bathroom can negatively affect comfort. In addition, the fact that the fistula allows self-care applications and the lack of a feeling of continuous living with a medical material such as a catheter can also affect comfort.

Conclusion

The study found that patients' comfort levels were moderate. It was found that the comfort level of patients receiving hemodialysis through a fistula is significantly higher than that of patients with a catheter. Appropriately planned interventions for hemodialysis patients can improve patient outcomes. Hemodialysis patient comfort levels should be measured at regular intervals as a routine part of clinical monitoring, and the results should be integrated into nursing care plans. Our findings indicate that patients receiving hemodialysis treatment through a fistula have higher comfort. This may indicate that catheter-related complications affect patient comfort. Standardized protocols should be implemented to reduce catheter-related complications. Multicenter studies conducted in different regions could increase the generalizability of the findings.

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Reviewer: External, Independent
Acknowledgements: –

Declarations:

1. Originality Statement: This study was not derived from any thesis.

2. Author Contributions: Conceptualization: RDD; Idea: RDD, RBA; Literature Review: RDD; Data Collection: RDD; Data Processing: RDD; Analysis: RDD; Writing – Original Draft: RDD, RBA; Writing – Review and Editing: RDD, RBA.

3. Ethics Committee Approval: Ethics committee approval for this study was obtained from the Bingöl University Bingöl Ethics Committee with the decision dated 24/10/2024 and numbered 182888

4. Funding/Support: This study did not receive any financial support.

5. Conflict of Interest: The author(s) declare that there is no conflict of interest.

6. Generative Artificial Intelligence Statement: No generative artificial intelligence tools were used at any stage of this study.

7. Sustainable Development Goals: This work is related to the following United Nations Sustainable Development Goals

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