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The Effect of Therapeutic Touch on the Loneliness and Hopelessness Levels of Patients Undergoing Hemodialysis: A Randomized Controlled Trial

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ABSTRACT

Objective: This study was conducted as a randomized controlled experimental study to examine the effect of therapeutic touch on loneliness and hopelessness levels in hemodialysis patients. **Materials and Methods:** This randomized controlled experimental study was conducted with patients undergoing hemodialysis at the hemodialysis unit of a hospital in Turkiye. The sample consisted of 40 patients (20 control, 20 intervention) who voluntarily participated in the study. Data were collected using the Patient Information Form, UCLA Loneliness Scale, and BECK Hopelessness Scale. Therapeutic Touch was given to the patients in the intervention group for 15 minutes every other day for three days, whereas no interventions other than routine care were applied to patients in the control group. **Results:** After the therapeutic touch, it was found that the mean scores received from UCLA and BECK scales were statistically lower in the intervention group compared to the control group ($p<0.001$). **Conclusion:** Our study found that the Therapeutic Touch intervention decreased the loneliness and hopelessness levels of the patients.

Keywords: Hemodialysis, Nursing, Hopelessness, Loneliness, Therapeutic Touch.

Hemodiyaliz Tedavisi Alan Hastalarda Terapötik Dokunmanın Yalnızlık ve Umutsuzluk Düzeylerine Etkisi

ÖZ

Amaç: Bu çalışma hemodiyaliz hastalarına uygulanan terapötik dokunmanın yalnızlık ve umutsuzluk düzeyine etkisini incelemek amacıyla randomize kontrollü deneysel bir çalışma olarak yapıldı. **Gereç ve Yöntem:** Bu randomize kontrollü deneysel çalışma, Türkiye' deki bir hastanenin hemodiyaliz ünitesinde hemodiyaliz tedavisi gören hastalarla gerçekleştirildi. Örneklemi araştırmaya gönüllü olarak katılan 40 hasta (20 kontrol, 20 müdahale) oluşturmuştur. Veriler Hasta Bilgi Formu, UCLA Yalnızlık Ölçeği ve BECK Umutsuzluk Ölçeği kullanılarak toplandı. Müdahale grubundaki hastalara üç gün boyunca günaşırı 15 dakika Terapötik Dokunma uygulaması yapılırken, kontrol grubundaki hastalara rutin bakım dışında herhangi bir müdahale uygulanmadı. **Bulgular:** Tedavi edici dokunmanın sonrasında müdahale grubunda UCLA ve BECK ölçeklerinden alınan puan ortalamalarının kontrol grubuna göre istatistiksel olarak daha düşük olduğu belirlendi ($p<0,001$). **Sonuç:** Çalışmamız Terapötik Dokunma müdahalesinin hastaların yalnızlık ve umutsuzluk düzeylerini azalttığını bulundu.

Anahtar Kelimeler: Hemodiyaliz, Hemşirelik, Umutsuzluk, Yalnızlık, Terapötik Dokunma.

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INTRODUCTION

Chronic Renal Failure is an irreversible disease in which the glomerular filtration rate (GFR) drops below 60 ml/min for three months or more, followed by renal damage (Webster, 2017). End-Stage Renal Failure (ESRD) is defined as a chronic and progressive decline in renal functions necessary to sustain the body's fluid-electrolyte and metabolic functions, beginning with a drop in GFR. Peritoneal dialysis (PD), hemodialysis (HD), as well as kidney transplantation are all treatment methods for ESRD (Eckert et al., 2018).

Hemodialysis is the most commonly employed method among these treatments. Patients treated by hemodialysis suffer many symptoms, depending on the disease and treatment process, and they have to deal with problems, such as family role change, social isolation, and fear of death (Burrai et al., 2019). These problems may cause the patients to suffer hopelessness, which is described as negative expectations and feelings of deadlock in achieving a goal (Dziubek et al., 2016).

Hemodialysis is a type of therapy that threatens individuals' biopsychosocial integrity, causes them to experience the fear of solitude in the future, and distorts their peace (Thomas et al., 2017). When a patient's loneliness problem is overlooked by medical staff and the patient is unable to obtain the required assistance, the loneliness problem also becomes a secondary complication of the disease (Akbaş et al., 2020). Therefore, it is crucial to pay special attention to hemodialysis patients' feelings of loneliness and to approach them within the scope of holistic care.

The literature includes a limited number of studies examining the effect of integrative practices on loneliness and hopelessness. These practices include art therapy and aerobic exercises (Aydın et al., 2021; Dieli Conwright et al., 2018). Being one of the integrative methods, the Therapeutic Touch (TT) is a personalized therapy based on the notion that the human being is an energy field and a form of flow. TT is a validated intervention that teaches individuals how to discover their internal balance and how to harness the universe's energy with a certain intention and compassion (Bağcı et al., 2019). Although energy is balanced and flows smoothly when one is healthy, there is an energy imbalance or disorder when one is ill. The energy field of a human extends beyond the skin level, and the Therapeutic Touch practitioner adapts himself to this energy by employing his hands as sensors in the receiver's energy field (Olivares et al., 2019).

Body-based methods used in the field of Complementary and Alternative Medicine (CAM) constitute an important area in managing or alleviating the conditions or symptoms of Chronic Kidney Failure that patients experience. The National Center for Complementary and Integrative Health (NCCIH) defines body-based methods as a series of techniques that involve the movement of the body, including the soft tissues, circulatory and lymphatic systems, as a useful way to achieve health and well-being (Chu et al., 2022).

Therapeutic touch, which is known to alleviate feelings of loneliness and hopelessness, is a holistic approach that has effects such as adjusting, expanding, balancing, and preserving energy by affecting energy fields with the hands to treat diseases and symptoms induced by the imbalance in vital energy fields (Reeve et al., 2020). Although the literature includes no studies related to the effect of TT on levels of loneliness and hopelessness, there have been studies on other issues. In their study, Mueller et al., (2018) suggested that it is a non-invasive nursing practice in the management of back pain in adult patients (Mueller et al., 2018). In their study, Doğru et al., (2021) reported that TT decreased the levels of stress, fatigue, and daytime sleepiness, and increased sleep quality (Vural et al., 2021).

Therapeutic touch, which has a healing and soothing effect on diseases, is a newly popular nursing technique intended at helping individuals, the importance and use of which have been increasing among nurses in the recent period (Reeve et al., 2020). Nurses employ TT to express messages such as intimacy, attention, trust, courage, sincerity, kindness, empathy, respect, support, tolerance, acceptance, and eagerness to help. While other healthcare professionals can learn and implement therapeutic touch, TT is suggested to be provided to patients as a nursing practice within the scope of the professional nursing practice. Nurses are the most suitable healthcare professionals for TT intervention since they have direct contact with patients and are continuously observing and assessing them (Alp et al., 2020).

Hypotheses of the study

H_{01}: Therapeutic touch applied to hemodialysis patients for 15 minutes for three days every other day is not effective on the level of loneliness.

H_{11}: Therapeutic touch applied to hemodialysis patients for 15 minutes every other day for three days is effective on the level of loneliness.

H_{02}: Therapeutic touch applied to hemodialysis patients for 15 minutes every other day for three days is not effective on the level of hopelessness.

H_{12}: Therapeutic touch applied to hemodialysis patients for 15 minutes every other day for three days is effective on the level of hopelessness.

This study is believed to contribute to the literature since it is the first attempt to determine the effect of Therapeutic Touch on loneliness and hopelessness levels of patients undergoing hemodialysis.

MATERIALS AND METHODS

Study type

This study was conducted as a randomize controlled study.

Study group

This study was conducted as a randomized controlled experimental study to determine the effect of Therapeutic Touch on the loneliness and hopelessness levels of patients undergoing hemodialysis. The population consisted of 78 patients who were treated in the hemodialysis unit of a hospital between 19 February 2021 and 27 March 2021. The sample consisted of 40 patients who were voluntary to participate in the study and were undergoing hemodialysis for at least three months, had cognitive functions, and had a UCLA score of >20 and a BECK score of ≥4. The patients were randomly divided into intervention (n=20) and control (n=20) groups based on the simple randomization method on the computer by the biostatistician.

The sample size of our study was calculated with G Power V3.1.9.7 according to the power analysis performed by the biostatistician, the partial η2=0.864 indicating the post-study effect size for the Beck Hopelessness Scale, and the statistical power was 99.9%. According to the power analysis for the interaction effect according to the UCLA Loneliness Scale, the partial η2=0.906 indicating the effect size and the statistical power was 99.9%. In line with these results, it was decided that the sample size of 40 patients (20 interventions, 20 controls) was sufficient.

Procedures

The researcher attended a 2-day Therapeutic Touch course to apply Therapeutic Touch and received a certificate. The procedure was explained to the patient before the intervention.

The intervention was implemented according to the sessions of patients undergoing hemodialysis. The session hours were 08.00 to 12.00 and 13.00 to 17.00. The intervention began half an hour after the patient was hooked up to dialysis and ended half an hour before the patient left the dialysis machine.

The patient identification form, the UCLA Loneliness Scale, and the BECK Hopelessness Scale were collected from the patients in the intervention group before starting the intervention.

Firstly, the procedure was explained to the patient before the application. The temperature of the room of the patients was kept within the range of 22-26ºC. The patients were supported by pillows under the head and knees, allowing them to lie comfortably in the supine position.

Before the intervention, the researcher washed his hands and was focused. To evaluate the energy field of the patient, the hands were moved 5-15 cm away, by making a sweeping motion over the body. The application was made from the patient's head area to the foot area. The researcher evaluated the patient's energy field, and if there were distressed and painful areas, more time was allocated to those areas. It was continued until the patient's energy field was balanced, that is, until no tingling or heat increase was felt in the hands of the practitioner. The Therapeutic Touch application lasted an average of 15 minutes, and the procedure was performed every other day for 3 days.

After the intervention, the researcher asked the patients for feedback and answered the patients' questions. At the end of the 3-day application, the UCLA Loneliness Scale and the BECK Hopelessness Scale were refilled.

No intervention was made in the control group, their routine care and treatment continued, and the UCLA Loneliness Scale and BECK Hopelessness Scale were filled again.

Data collection

Patient Information Form: After reviewing the literature (Akbaş et al., 2020; Aydın & Kutlu, 2021; Mueller et al., 2018; Alp & Yucel, 2020), the researcher prepared a patient introduction form that included a total of 16 questions about age, gender, marital status, educational background, income status, number of children, chronic disease, routinely used medicines, diagnosis time, duration of HD, and perception of social support.

UCLA Loneliness Scale: The scale was developed by Russell et al., in 1980 and its Turkish validity and reliability study was conducted by Demir (Russell et al., 1980; Demir, 1989). The UCLA Loneliness Scale includes a total of 20 questions, ten of which are scored reversely. Each item is scored between 1-4 points. When calculating loneliness, they are calculated by getting the reciprocal of the scores given to the reverse items (Karaoğlu et al., 2009). The highest and lowest scores on the scale are 80 and 20. Higher scores signify a high level of loneliness (Çeçen, 2008). In the study conducted by Demir, Cronbach's alpha value of the scale was found to be 0.96 (Russell et al., 1980; Demir, 1989). In our study, the Cronbach alpha coefficient was 0.975.

Beck Hopelessness Scale (BHS): The scale was developed by Beck et al., in 1974 to measure the hopelessness level and its Turkish validity and reliability study was conducted by Seber et al., in 1993 (Seber et al., 1993). The scale consists of 20 items rated between 0 and 1. The scale items are divided into three sub-scales: Future Emotions and Expectations (Items 1, 3, 7, 11, and 18), Loss of Motivation (Items 2, 4, 9, 12, 14, 16, 17, and 20), and Hope (Items 5, 6, 8, 10, 13, 15, and 19). The lowest and highest scores on the scale are 0 and 20 and high scores indicate a high level of hopelessness (Durak, 1994). In the study conducted by Beck et al., the Cronbach's alpha value of the scale was found to be 0.86 (Seber et al., 1993; Durak, 1994). In our study, it was calculated as 0.891.

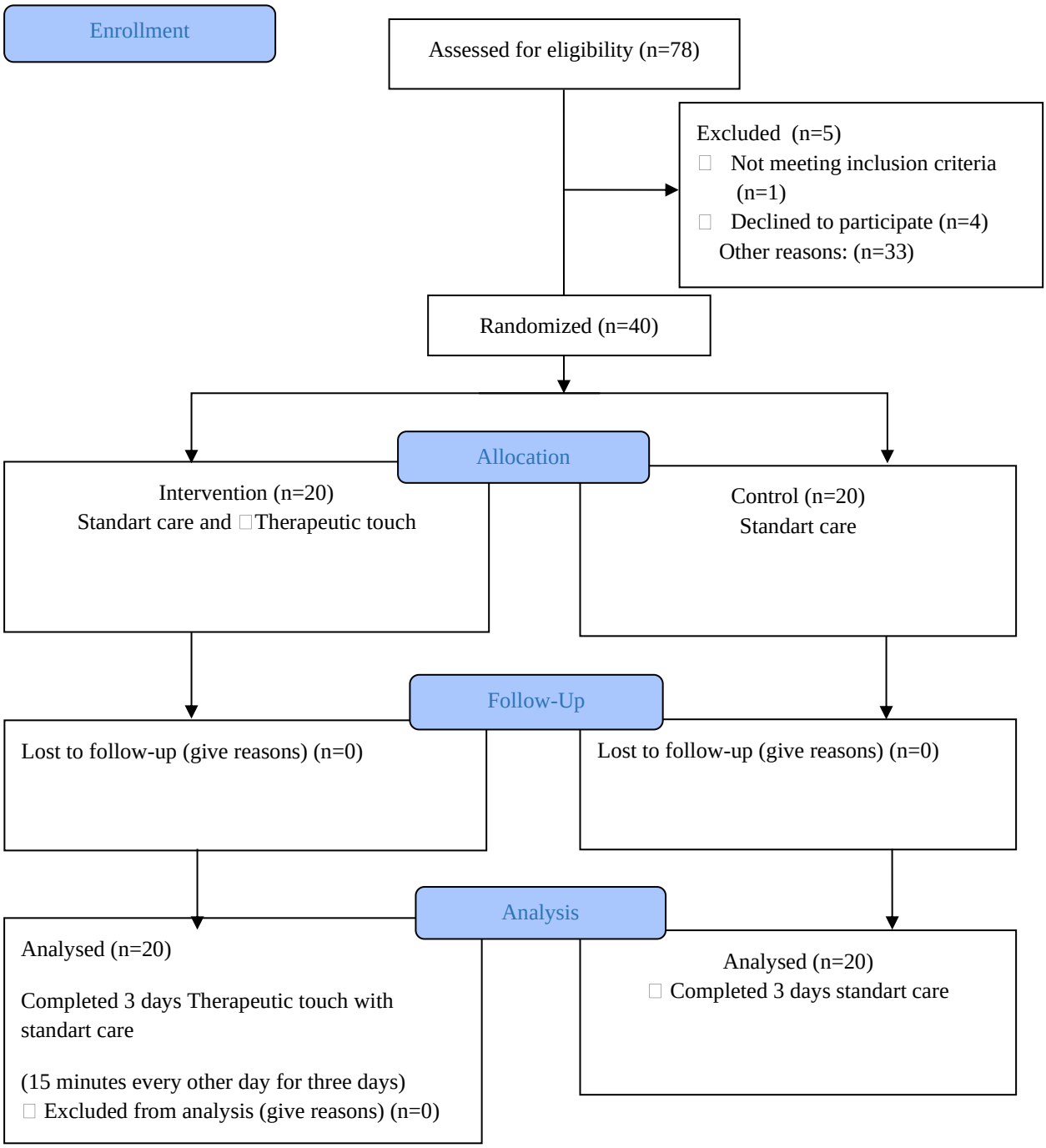

Figure 1. CONSORT flow diagram.

Statistical analysis

The data were assessed by using statistical packaged software of IBM SPSS Statistics Standard Concurrent User V 26 (IBM Corp., Armonk, New York, USA). Descriptive statistics were given as the number of units (*n*), percentage (%), mean±standard deviation ($\bar{x} \pm ss$), median (*M*), the minimum value (*ekd*), the maximum value (*ebd*) 25 percent (O_1), and 75 percent (O_3). The Shapiro Wilk normality test and the *Q-Q* plots were used to assess the normal distribution of the data of the numerical variables. Levine's test was employed to analyze the homogeneity of the variances. In the intergroup comparison of socio-demographic characteristics, the Mann-Whitney *U* test was employed for numerical variables and the exact method of the chi-square test for categorical variables. The Cronbach's alpha coefficient was used to analyze the internal consistency of the scales. Two-way repeated-measures analysis of variance was used from general linear models in the intragroup and intergroup comparison of the scale scores before and after the intervention. In multiple comparisons for main effects, the Bonferroni correction was employed.

Pearson's correlation analysis was conducted to evaluate inter-scale correlations. The value of $p<0.05$ was considered statistically significant.

Ethical considerations

Ethics Committee approval (02.10.2020/17) from the Non-Invasive Clinical Trials Ethics Committee of the University's Faculty of Medicine and written permission (77378720-774.99) from the related institution were obtained for the study. After the participants were informed about the purpose of the study and their oral and written informed consent was acquired. This study is registered with Clinical Trial Registration Number NCT05024201.

RESULTS

Socio-demographic characteristics

The mean age was 56.3±20.2 years in the intervention group and 52.7±17.7 years in the control group, and both groups were similar in terms of other descriptive characteristics ($p>0.05$) (Table 1). Furthermore, the disease-related characteristics of the patients in the intervention and control groups were similar. ($p>0.05$). (See Table 2).

UCLA Loneliness Scale

In the present study, the mean score of the UCLA Loneliness Scale before the intervention was 54.80±8.39 and 54.80±7.99 in the intervention and control groups, respectively, and the UCLA scores of the groups before intervention were similar ($p> 0.05$). Following the intervention, the UCLA mean score of the intervention group decreased (28.55±3.69); whereas, the control group's UCLA mean score increased (57.30±6.30). This difference was considered statistically significant ($p<0.001$) (Table 3).

Beck Hopelessness Scale (BHS)

It was found that the total mean score of the BECK Hopelessness Scale before the intervention was 13.05±2.89 in the intervention group and 13.05±3.05 in the control group. Before the intervention, the BHS mean score in both groups was similar ($p>=0.999$). Following the intervention, the BHS mean score of the intervention group dropped to 4.30±1.30, but the control group's BHS mean score increased to 14.20±2.78, and the difference between the two groups was statistically significant ($p<0.001$) (Table 3).

Table 1. Descriptive characteristics of the patients.

Characteristics	Groups		Test p
	Intervention group (n=20) n (%)	Control group (n=20) n (%)	
Age (year)			
x̄±sd	56.3±20.2	52.7±17.7	z=0.717
M (min-max)	65.5 (22.0-80.0)	53.5 (21.0-80.0)	0.478
Age group			
40 years and below	6 (30.0)	5 (25.0)	χ^2=5.007
41-60	2 (10.0)	8 (40.0)	0.092
61 years and above	12 (60.0)	7 (35.0)	
Gender			
Female	11 (55.0)	10 (50.0)	χ^2=0.100
Male	9 (45.0)	10 (50.0)	0.999
Marital status			
Married	14 (70.0)	15 (75.0)	χ^2=0.125
Single	6 (30.0)	5 (25.0)	0.999
Number of children			
None	4 (20.0)	2 (10.0)	χ^2=1.407
1-3	5 (25.0)	8 (40.0)	0.473
4 and above	11 (55.0)	10 (50.0)	
Educational background status			
Illiterate	6 (30.0)	7 (35.0)	
Primary school	7 (35.0)	7 (35.0)	χ^2=0.220
Secondary school	4 (20.0)	3 (15.0)	0.999
High school/University	3 (15.0)	3 (15.0)	
Income status			
High	4 (20.0)	3 (15.0)	
Middle	7 (35.0)	8 (40.0)	χ^2=0.210
Low	9 (45.0)	9 (45.0)	0.999
Residence place			
Province	15 (75.0)	17 (85.0)	χ^2=0.625
District/Village	5 (25.0)	3 (15.0)	0.695

Table 1 (continued). Descriptive characteristics of the patients.

Characteristics	Groups		Test value p
	Intervention group (n=20) n (%)	Control group (n=20) n (%)	
The people they live with			
Spouse	13 (65.0)	13 (65.0)	
Child	3 (15.0)	5 (25.0)	χ^2=1.500
Parents	1 (5.0)	1 (5.0)	0.764
Other (nephew, sibling)	3 (15.0)	1 (5.0)	
Perception of health			
Good	4 (20.0)	6 (30.0)	
Moderate	6 (30.0)	4 (20.0)	χ^2=0.800
Poor	8 (40.0)	8 (40.0)	0.859
Terrible	2 (10.0)	2 (10.0)	
Perception of social support			
Good	3 (15.0)	2 (10.0)	
Moderate	10 (50.0)	7 (35.0)	χ^2=1.618
Poor	7 (35.0)	11 (55.0)	0.551
Ways to spend leisure time			
Watching TV	11 (55.0)	12 (60.0)	χ^2=3.377
Travelling	2 (10.0)	2 (10.0)	0.761
Walking	0 (0.0)	2 (10.0)	
Cooking	2 (10.0)	2 (10.0)	
Reading	3 (15.0)	1 (5.0)	
Other (gardening, playing with grandchildren)	2 (10.0)	1 (5.0)	

n: Number of units, $\bar{x}$: Arithmetic mean, sd: Standard deviation, M: Median, min: Minimum, max: Maximum, χ^2: Chi-square test statistic, z: Mann-Whitney U test statistic.

Table 2. Disease-related characteristics of the patients.

Characteristics	Groups		Test value p
	Intervention group n (%)	Control group n (%)	
Presence of comorbid chronic disease			
Yes	14 (70.0)	11 (55.0)	χ^2=0.960
No	6 (30.0)	9 (45.0)	0.514
Additional chronic disease			
Heart failure	3 (21.4)	2 (18.2)	
Diabetes	4 (28.6)	0 (0.0)	χ^2=4.312
Hypertension	6 (42.9)	7 (63.6)	0.293
Other (goiter, rhythm disturbance, neurogenic bladder)	1 (7.1)	2 (18.2)	
Drugs used	*n* =17	*n*=15	
Antibiotic	0 (0.0)	1 (6.7)	
Antidiabetic	3 (17.6)	1 (6.7)	
Antihypertensive	9 (53.0)	7 (46.6)	χ^2=4.285
Anticoagulant	3 (17.6)	4 (26.6)	0.817
Diuretic	1 (5.9)	1 (6.7)	
Thyroid	0 (0.0)	1 (6.7)	
Anti-potasium	1 (5.9)	0 (0.0)	
Duration of diagnosis			
5 years and below	10 (50.0)	12 (60.0)	χ^2=0.459
6-10 years	7 (35.0)	6 (30.0)	0.824
10 years and above	3 (15.0)	2 (10.0)	
Duration of hemodialysis			
2 years and below	6 (30.0)	12 (60.0)	χ^2=5.600
3-5 years	8 (40.0)	2 (10.0)	0.060
5 years and above	6 (30.0)	6 (30.0)	

n: Number of units, *M*: Median, O_1: Value of the first quarter, O_3: Value of the third quarter, χ^2: Chi-square test statistics, z: Mann-Whitney U test statistics, * Assessments were made based on the patients with comorbid diseases.

Table 3. Loneliness and hopelessness levels of the patients before and after the practice.

Scales	Groups		Test value
	Intervention group $\bar{X}$±sd	Control group $\bar{X}$±sd	p
Ucla- loneliness scale			
Before the practice	54.80±8.39	54.80±7.99	0.001 0.999
After the practice	**28.55±3.69**	**57.30±6.30**	310.017 <0.001
Test	F=611.249; p<0.001	F=5.544; p=0.024	
Model statistics[&] **Group effect:** f=50.092; p<0.001 **measurement effect:** f=250.182; p<0.001 **group*measurement effect** f=366.611; p<0.001			
Beck -total			
Before the practice	13.05±2.89	13.05±3.05	0.001 0.999
After the practice	**4.30±1.30**	**14.20±2.78**	207.602 <0.001
Test	F=377.106; p<0.001	F=6.514; p=0.015	
Model statistics[&] **Group effect:** f=42.501; p<0.001 **measurement effect:** f=142.248; p<0.001 **group*measurement effect** f=241.373; p<0.001			
Beck - future emotions and expectations			
Before the practice	3.45±1.05	3.75±0.91	0.932 0.340
After the practice	1.35±1.18	4.05±0.88	66.752 <0.001
Test	F=98.576; p<0.001	F=2.012; p=0.164	
Model statistics[&] **Group effect:** f=27.941; p<0.001 **measurement effect:** f=36.212; p<0.001 **group*measurement effect** f=64.376; p<0.001			
Beck - loss of motivation			
Before the practice	5.15±1.13	5.35±1.38	0.249 0.621
After the practice	1.85±1.18	5.40±1.35	78.059 <0.001
Test	F=211.402; p<0.001	F=0.049; p=0.827	
Model statistics[&] **Group effect:** f=25.972; p<0.001 **measurement effect:** f=102.522; p<0.001 **group*measurement effect** f=108.928; p<0.001			
Beck hopelessness scale- hope			
Before the practice	4.45±1.09	3.95±1.46	1.487 0.230
After the practice	1.10±0.78	4.75±1.37	106.468 <0.001
Test	F=152.988; p<0.001	F=8.725; p=0.005	
Model statistics[&] **Group effect:** f=22.558; p<0.001 **measurement effect:** f=44.322; p<0.001 **group*measurement effect** f=117.391; p<0.001			

[&]: Two-Way Repeated Measures Analysis of Variance, **[†]:** Inter-group comparisons in each practice [¥]: Comparisons between practices in each group.

DISCUSSION

Patients undergoing hemodialysis, unlike the other patient groups, is subject to a long and exhausting treatment process. Patients undergo this treatment alone for 4-6 hours for at least three days each week. In the present study, the mean score of the UCLA Loneliness Scale of hemodialysis patients was 54.80±8.39 and their loneliness levels were high. In the study conducted by Koç et al., (2009) to identify the loneliness levels of hemodialysis patients they found that the mean score of the UCLA Loneliness Scale was 37.71±9.76 (Koç et al., 2009). Another study reported that the loneliness mean score of hemodialysis patients was 38.6±12.0 (Ovayolu et al., 2007). When the results were compared, it was found in the present study that hemodialysis patients suffered from loneliness above the average. The present study reported less loneliness in the individuals in the intervention group after the practice of therapeutic touch. Therapeutic Touch is an intervention that promotes interpersonal communication and helps an individual feel supported and not alone. Individuals' feelings of loneliness are alleviated by touch and expressing signals such as "you are not alone," "do not worry," and "I am here."

In the present study, it was found that the BHS mean score of patients undergoing hemodialysis was 13.05±2.89. In their study, Başaran et al., (2016) determined the BHS mean score as 12.76±3.04 (Başaran et al., 2016). In another study, the BHS mean score of hemodialysis patients was found to be 13.70±6.82 (Cengiz et al., 2019). The findings of the present study were shown to be compatible with those published in the literature. The present study indicated that the hopelessness level of the patients decreased after the intervention of therapeutic touch. When studies on Therapeutic Touch in the literature are reviewed, they have demonstrated that Therapeutic

Touch offers several advantages (Başaran et al., 2019). According to a study examining Therapeutic Touch with Chronic Renal Failure patients undergoing hemodialysis, Therapeutic Touch intervention was found to be a professional practice for managing physical and psychological problems. This study found that therapeutic touch activates brain structures such as sensory processing, attention and memory, and manages complex cognition and multi-sensory integration (Karingga, 2021).

TT has also been found to offer subjective advantages, such as elevated mood in the individuals, positive interpersonal relationships, reduced anxiety, and a sense of life satisfaction (Cengiz et al., 2019). In a study conducted by Newshan et al., patients who were subjected to Therapeutic Touch stated, "I can feel all my troubles fly away," "I can honestly say that I feel relaxed and rested during treatment and I would recommend it to everyone," "I am amazed at how quickly it affected," and "I think you should continue to offer Therapeutic Touch intervention to everyone in the hospital." after the intervention (Newshan et al., 2003).

When the satisfaction of the patients in the intervention group with the Therapeutic Touch application was asked in the present study, some patients wished the intervention to continue after the study. The patients emphasized their satisfaction with Therapeutic Touch intervention with expressions like: "I was incredibly pleased with the Therapeutic Touch intervention. Your visit to me for a week raised my hope and alleviated my loneliness. I would really like you to come back again.

"I used to be very obsessed with loneliness. I did not care about most things after the Therapeutic Touch intervention." As these expressions indicate, the Therapeutic Touch intervention was beneficial to the patients' feelings of loneliness and hopelessness.

Furthermore, the nurses at the hemodialysis clinic where the intervention was carried out were pleased with the Therapeutic Touch on the patients. A nurse working in the hemodialysis unit expressed her support for Therapeutic Touch intervention by saying, "We wish that a therapist would implement this intervention on patients regularly on specific days of the week, and we also notice that patients feel relieved and satisfied."

Nurses adopt Therapeutic Touch to give a message to patients that they are there for them. As a result, patients have the opportunity to recover both emotionally and physically.

Limitations of study

The study was conducted with patients undergoing hemodialysis in a state hospital and does not include all hemodialysis patients. Therefore, the result of the study can be generalized to this sample group.

CONCLUSION

In our study, we examined the effect of Therapeutic Touch on the loneliness and hopelessness level of hemodialysis patients. Therapeutic Touch intervention reduced the loneliness and hopelessness levels of the patients and they were satisfied with the outcomes.

In line with these results, it has been suggested to apply Therapeutic Touch to patients with high levels of loneliness and hopelessness, to provide nurses with training on Therapeutic Touch application within the scope of in-service training, and to conduct single-blind or double-blind randomized controlled studies in which Therapeutic Touch is compared with other integrative methods.

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Conflict of Interest

The authors have no conflict of interest to declare.

Author contribution

Plan, design: ZB, SK; **Material, methods and data collection:** ZB; **Data analysis and comments:** ZB; **Writing and corrections:** ZB, SK.

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Ethical approval

Institution: Non-Invasive Clinical Trials Ethics Committee of the Cukurova University's Faculty of Medicine Scientific Research Evaluation Board
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