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ORIGINAL PAPER

Association Between Spiritual Well-Being and Resilience Among Turkish Hemodialysis Patients

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Abstract

This study aimed to determine the association between spiritual well-being and resilience among Turkish hemodialysis patients. This cross-sectional study was conducted with 134 hemodialysis patients treated at two state hospitals' hemodialysis units between February 2019 and July 2019. The data were collected with a Personal Information Form, the Spiritual Well-Being Scale and the Resilience Scale for Adults with the face-to-face interview technique. To analyze the data, descriptive statistics, *t* tests, ANOVA, Pearson's correlation and multivariate linear regression analysis were used. The patients' spiritual well-being levels were high, while their psychological resilience levels were medium. There was a moderate positive correlation between spiritual well-being and resilience ($p < 0.01$). Education level, economic level, duration of disease and spiritual well-being were determined to be statistically significant predictive factors of the patients' resilience ($p < 0.001$). In this context, nurses may provide psychosocial and spiritual care, education and counseling services that will increase patient's resilience.

Keywords Spiritual well-being · Resilience · Hemodialysis patient

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Introduction

End-stage renal diseases (ESRD) have become a prevalent public health problem in the world and in Turkey (Norozi Firoz et al. 2019). Approximately, 2.6 million individuals in the world continue their lives by dialysis or kidney transplantation treatments, and this number is expected to reach 5.5 million in the year 2030 (Liyanage et al. 2015). In Turkey, according to the data of the Nephrology Association, the prevalence of ESRD is dramatically increasing, and there are about 75,000 patients in Turkey who received kidney transplants or dialysis application (T. R. Ministry of Health 2018; Suleymanlar et al. 2017).

Hemodialysis (HD) is the most frequently used therapeutic method for treatment of ESRD (Li et al. 2018). Although ESRD can be treated by hemodialysis, individuals diagnosed with this disease experience several problems (Norozi Firoz et al. 2019). Perhaps, the necessity to live with a lifelong illness due to a chronic illness of the person, considering the dialyzer as a friend and being dependent on it and seeking constant help from the dialysis team are some of these problems, causing individuals to experience helplessness (Dane and Olgun 2016). Patients with incurable chronic diseases sometimes turn toward belief and religious practices to alleviate the symptoms they experience and feel emotional relaxation (Luchetti et al. 2010). Spirituality is a potential source for protection of mental health, and it is seen as a coping mechanism for stressful life experiences (Martínez and Custódio 2014).

While spirituality is usually used synonymously with religious belief, it is a broader and more comprehensive concept that allows individuals to gain a final meaning for their lives where they make sense of life based on their personal values (Cheawchanwattana et al. 2015). Spirituality is a sense of being in a relationship with God, searching for the meaning and purpose in life, recovery by a non-physical means (prayer, meditation, religious belief, etc.), internal peace and well-being (Erisen and Sivrikaya 2017). Spiritual well-being is defined as communicating with others, having meaning and purpose in life and feeling of belief in a higher power and having a relationship with that power (Gomez and Fisher 2003). It was emphasized that spiritual well-being is an unmatched power that coordinates the physical, psychological, mental and social dimensions of people, and it is seen as a significant indicator of perceived quality of life (Bonelli and Koening 2013; Solaimanizadeh et al. 2019). It was reported in the literature that spiritual well-being has a positive effect on health and diseases (Bonelli and Koening 2013; Bravin et al. 2019). It was stated that people with high levels of spiritual well-being have a healthier lifestyle, are happier and more satisfied with their lives (Mahdian and Ghaffari 2016). Studies on hemodialysis patients have also stated that spiritual well-being plays an important role in adaptation to the disease, increasing coping skills and physical and mental wellness status and reducing anxiety, depression, substance abuse and suicide rates (Martínez and Custódio 2014; Freire de Medeiros et al. 2017; Musa et al. 2018; Taheri-Kharameh 2016). It is understood from such studies that spiritual well-being is an important variable that increases individuals' psychological resilience.

Psychological resilience is defined as a source of resistance against stressful life events and the skill of being able to gain a positive point of view, adapting to

difficulties and effective coping (Basim and Cetin 2011). It is stated that individuals with high psychological resilience levels perceive stress-forming situations as an adaptation providing process, and they preserve their physical and mental health by using effective coping strategies (Isık 2016). Additionally, it was argued that a person needs to have a reason for being resilient against difficulties, and individuals with high levels of psychological resilience are people who have a purpose of living and high levels of spiritual well-being (Eksi et al. 2019; Mahdian and Ghaffari 2016). Nevertheless, it is emphasized that spirituality provides people with strength to understand the negative events they experience and overcome the traumas created by these events, and it provides these pains with meaning, endows hope and contributes to people being more resilient in the psychological sense (Eksi et al. 2019; Gultekin et al. 2019; Jannati et al. 2017).

Despite its positive effects on diseases as a significant coping mechanism, spiritual well-being has been neglected in both clinical practice and research. In addition to this, it is seen that there are very few studies on the relationship between spiritual well-being and psychological resilience in hemodialysis patients (Jenaabadi and Mir 2019; Freire de Medeiros et al. 2017), and none in Turkey. Nevertheless, in achievement of effective, quality and patient-centered care, it is an important necessity for healthcare professionals to determine and eliminate spiritual needs (Kaur et al. 2015). Nurses are in a position to minimize the negative effects of the disease process on individuals and increase their psychological resilience and quality of life by using their roles such as education, counseling, guidance, psychotherapy, psychosocial and spiritual care (Norozi Firoz et al. 2019). Therefore, the purposes of this study were: (1) to determine the spiritual well-being and resilience levels of hemodialysis patients, (2) to explore the association between hemodialysis patients' spiritual well-being and resilience levels and (3) to identify significant factors predicting hemodialysis patients' resilience. It is believed that the results obtained in the study will contribute to filling the gap in the literature and be guiding for nurses in increasing the spiritual well-being and psychological resilience levels of patients.

Material and Method

Design

This cross-sectional study was carried out at the hemodialysis units of two state hospitals between February and July 2019 in Balikesir and Edirne, Turkey

Population

The study population comprised 75 patients who received hemodialysis treatment in Balikesir and 79 patients in Edirne. Balikesir and Edirne are located in the west of Turkey. The minimum sample size was calculated with the G-Power software by applying correlation to two independent Pearson's r coefficients. The results showed that the minimum sample size was 132 patients. In order to achieve the minimum

sample size, of the 154 patients who were diagnosed with ESRD according to the International Classification of Diseases System (ICD-10), received hemodialysis treatment between February 2019 and July 2019 and met the inclusion criteria, 134 were included in the study. The inclusion criteria were as follows: being diagnosed with ESRD (at least 6 months ago), receiving hemodialysis treatment (at least 6 months ago), being older than 18 years, being a Muslim and agreeing to participate in the study. The exclusion criteria were as follows: having a psychiatric disorder and using psychiatric drugs, having perception disorders, having communication problems and hearing impairment. Eight patients who refused to participate were excluded from the study, and fourteen patients were excluded based on the exclusion criteria.

Data Collection Instruments

The data were collected using a Personal Information Form, the Spiritual Well-Being Scale and the Resilience Scale for Adults.

Personal Information Form

The form that was developed by the researchers contained ten questions on some socio-demographic and disease-related characteristics of the patients such as age, sex, marital status, educational status, economic level, disease duration, treatment duration and presence of a comorbid disease.

Spiritual Well-Being Scale (SWBS)

The scale was developed by Eksi and Kardas (2017) for the purpose of understanding people's processes of understanding and living their lives with their personal, social, environmental and transcendental aspects. In the Turkish validity and reliability study of the scale, the Cronbach's alpha coefficient was determined as 0.88. The five-point Likert-type scale consists of 29 items and three dimensions as transcendence, harmony with nature and anomie. The score range in the scale is 29–145 points, and higher scores indicate higher levels of spiritual well-being (Eksi and Kardas 2017). The Cronbach's alpha coefficient was found as 0.90 in this study.

Resilience Scale for Adults (RSA)

The scale was developed by Friborg et al. (2005) with the purpose of assessing psychological resilience in adults. The validity and reliability study of the scale in Turkish was conducted by Basim and Cetin in 2011, and the Cronbach's alpha coefficient was found as 0.86. The scale has six dimensions as structured style, perception of future, family cohesion, perception of self, social competence and social resources. The five-point Likert-type scale consists of 33 items. The range of possible scores in the scale is 33–165, while higher scores show higher psychological resilience

(Basim and Cetin 2011). The Cronbach's alpha value of the scale for this study was calculated as 0.83.

Procedure

The patients were informed about the objective and scope of the study, and written consent was obtained from the patients who met the inclusion criteria. The data were collected by the researchers with the face-to-face interview method during the hemodialysis treatment. Each interview lasted for about 20–30 min.

Ethics Approval

This study was conducted in accordance with the ethical standards of the Declaration of Helsinki. The institutional permission for the study was obtained from the Chief Physician's Office at the State Hospital, and its ethical approval was obtained from the Scientific Studies Ethics Board of the Faculty of Medicine at Trakya University (Decision date and no. 2019/05). Additionally, the principle of volunteerism was adopted in the study, and those who were included provided their written consent.

Statistical Analysis

For data analysis, the SPSS 21.0 software (SPSS, Inc., Chicago, IL, USA) was used. The comparison of the variables that were normally distributed according to the Kolmogorov–Smirnov test was performed using *t* test and one-way analysis of variance (Tukey's b test as a post hoc comparison). Pearson's correlation analysis was used to investigate the relationship between the patients' resilience and spiritual well-being. Multivariate linear regression analysis was used for the variables predicting the patients' resilience. The results were interpreted in a confidence interval of 95%. $p < 0.05$ was accepted to be statistically significant.

Results

Patients' Characteristics

Among the participants, 52.2% were male, 43.3% were in the age group of 45–64, 70.1% were married, 41.0% had primary education (primary and secondary school in Turkey) degrees, and 44.8% stated their economic level to be moderate. 54.5% of the hemodialysis patients were diagnosed with ESRD ≥ 5 years ago. 38.1% of the patients had been receiving hemodialysis treatment for ≥ 5 years, and 81.3% took dialysis three times a week.

Patients' Spiritual Well-Being and Resilience Levels

In the study, the scores of the hemodialysis patients obtained from the overall SWBS ranged from 70 to 145, with a mean score of 122.70 ± 16.75. The mean scores for the transcendence, harmony with nature and anomie subscales were 67.69 ± 11.90, 32.48 ± 3.79 and 22.38 ± 6.49, respectively. Additionally, the mean score that the participants obtained from the overall RSA was 100.65 ± 18.54. The mean scores for the structured style, perception of future, family cohesion, perception of self, social competence and social resources subscales were 10.50 ± 3.53, 8.13 ± 4.47, 20.41 ± 4.57, 18.41 ± 5.23, 18.92 ± 4.71 and 24.26 ± 7.83, respectively (Table 1).

Resilience Levels by Patients' Characteristics

Table 2 shows the distribution of the patients' resilience levels in terms of some variables. The resilience level was significantly lower in the hemodialysis patients who were in the 22–44 age group, were single, were literate, had low-income levels and those whose duration of the disease was ≥ 5 years ($p < 0.05$).

Correlation Between Patients' Spiritual Well-Being and Resilience

The correlations between the SWBS and RSA subscale scores are shown in Table 3. Pearson's correlation analysis revealed a moderate positive correlation between SWBS and RSA (r^2: 0.54, $p < 0.01$). There was a low positive correlation (r ranging from 0.38 to 0.43) between the SWBS subscale scores and the total mean score of resilience ($p < 0.001$).

Table 1 Descriptive statistics of patients' spiritual well-being and resilience ($n = 134$)

Scales	Mean ± SD	Min–Max	Score range
Spiritual Well-Being Scale	122.70 ± 16.75	70–145	29–145
Transcendence subscale	67.69 ± 11.90	30–75	15–75
Harmony with nature subscale	32.48 ± 3.79	19–35	7–35
Anomie subscale	22.38 ± 6.49	8–35	7–35
Resilience Scale for Adults	100.65 ± 18.54	33–165	33–165
Structured style subscale	10.50 ± 3.53	4–16	4–20
Perception of future subscale	8.13 ± 4.47	4–18	4–20
Family cohesion subscale	20.41 ± 4.57	6–26	6–30
Perception of self subscale	18.41 ± 5.23	6–26	6–30
Social competence subscale	18.92 ± 4.71	6–26	6–30
Social resources subscale	24.26 ± 7.83	10–35	7–35

SD standard deviation

Table 2 Patients' characteristics and comparison of resilience

Characteristics	*n*	%	Mean ± SD	*t*/*F*	*p*
Gender					
Women	64	47.8	99.60 ± 18.19	0.624	0.534
Men	70	52.2	101.61 ± 18.93		
Age (Mean ± SD: 58.84 ± 1.33)					
22–44 years	25	18.7	90.64 ± 18.86	4.739	0.010
45–64 years	58	43.3	102.86 ± 20.27		
≥ 65 years	51	38.1	103.06 ± 14.60		
Marital status					
Married	94	70.1	103.52 ± 18.10	2.812	0.006
Single	40	29.9	93.92 ± 18.01		
Education level					
Literate and lower	39	29.1	85.51 ± 18.131	6.635	< 0.001
Primary school	55	41.0	104.73 ± 10.56		
High school and higher	40	29.9	109.82 ± 18.94		
Perceived economic level					
Good	35	26.1	111.57 ± 18.50	8.805	< 0.001
Moderate	60	44.8	102.27 ± 13.19		
Bad	39	29.1	88.38 ± 18.92		
Duration of disease					
≤ 1 years	17	12.7	122.71 ± 17.40	5.376	< 0.001
1–5 years	44	32.8	104.30 ± 12.88		
≥ 5 years	73	54.5	93.32 ± 17.06		

ANOVA Analyses, independent *t* test

Table 3 Correlation between patients' spiritual well-being and resilience

Variables	SWBS total	Transcendence	Harmony with nature	Anomie
RSA total	0.54**	0.43**	0.40**	0.38**

**$p < 0.01$

Pearson's correlation analysis

Factors Predicting Patients' Resilience Levels

The results of the regression analysis explaining the factors affecting the hemodialysis patients' resilience levels are given in Table 4. The potential influencing factors showing statistically significant association with the t-test, ANOVA or correlation test were selected in the multivariate regression analyses. The predictive power of the linear regression model calculated using the Enter method was 58%. While the scores for RSA were positively correlated with variables such as

Table 4 Predictive factors of patients' resilience

Variables	B (95% CI)	SE	β	t	p
Constant	77.020	11.341		6.792	< .001
Age	0.104	0.084	0.075	1.239	0.218
Education level	5.782	1.604	0.240	3.605	< .001
Economic level	5.907	1.578	0.237	3.744	< .001
Duration of disease	− 8.951	1.583	− 0.342	−5.653	< .001
Spiritual well-being	0.322	0.073	0.291	4.415	< .001

$R = 0.76$, Adj. $R^2 = 0.58$, $F = 35.24$, $p = < 0.001$

Adj. R^2: Adjusted R square; B: partial regression coefficient; β: standard partial regression coefficient; 95% CI: 95% confidence interval

Reference categories: 0. Variables: education level: 0 ≤ literate, 1 primary school, 2 ≥ high school

Multivariate linear regression analysis

education level, economic level and spiritual well-being levels, they were negatively correlated with duration of the disease.

Discussion

ESRD is a serious health problem with increasing prevalence in the whole world, while it causes a significant rate of mortality (Norozi Firoz et al. 2019; Suleymanlar et al. 2017). This is why it is thought that several studies should be conducted to investigate the factors that affect the disease, and the results that are obtained from these studies may help in achievement of effective, quality and patient-centered care (Hajmohammadi and Shirazi 2017). In this study which primarily aimed to determine the spiritual well-being and psychological resilience levels of patients, the mean spiritual well-being score of the patients was found as 122.70 ± 16.75. Accordingly, it may be stated that the spiritual well-being levels of the patients were high. Similarly, other studies on hemodialysis patients also reported the spiritual well-being levels of patients to be high (Alradaydeh and Khalil 2017; Musa et al. 2018; Okhli et al. 2019). In the literature, it is reported that spiritual well-being has positive effects on the disease, functions as a coping and adaptation strategy and increases the state of physical and mental wellness (Fouladvandi et al. 2015; Martínez and Custódio 2014; Darvishpour et al. 2019). A previous study reported that spiritual therapy may be used as an effective intervention in hemodialysis patients to improve spiritual well-being, self-esteem and self-efficacy (Darvishi et al. 2019). In this sense, nurses should keep in mind that they play a key role in raising the spiritual well-being levels of patients with their caregiving, educational, guiding and supportive roles. The finding in this study, which was carried out in Turkey as a Muslim-majority country, that the spiritual well-being levels of the patients were high is promising in terms of suggesting that they might manage their disease positively.

It was found in the study that the psychological resilience levels of the patients were moderate. In the literature, the psychological resilience levels of hemodialysis

patients have been reported as low (Liu et al. 2018) or medium (Sriwantha et al. 2018). Psychological resilience is defined as the skill of adapting to stressful life events and being able to cope effectively (Basim and Cetin 2011). While symptoms that emerge in relation to ESRD are controlled with hemodialysis treatment, the treatment process and several lifestyle changes that need to be adopted lead to different problems among patients (Ahangar et al. 2013; Sanliturk et al. 2018). Psychological resilience may serve as a mechanism for patients to be able to cope with these difficulties they experience (Liu et al. 2018; Manning et al. 2016). Moreover, low resilience was associated with higher risks of depression and lower health health-promoting behaviors among hemodialysis patients (Liu et al., 2018; Ma et al. 2013). Therefore, it may be stated that important responsibilities fall upon nurses in increasing the psychological resilience of patients for them to be able to cope with stressors related to the chronic disease and for preventing mental disorders.

Considering the factors that affect psychological resilience in hemodialysis patients, which constituted another objective of the study, the educational level was found to be a significant variable that affects psychological resilience. In this study, in agreement with the literature, it was found that the psychological resilience of the patients increased as their educational level increased (Dane and Olgun 2016; Karadag et al. 2019; Ma et al. 2013). Higher awareness levels of individuals with high educational levels, their usage of effective problem-solving skills, their easier access to information/healthcare services, their better management of their disease and better socioeconomic conditions may have contributed to increasing their psychological resilience levels. Indeed, another factor that was found to affect psychological resilience in this study was the economic level. Similarly, previous studies also stated that hemodialysis patients with low-income levels had lower psychological resilience (Karadag et al. 2019; Cho and Yoo 2014). A high-income level is a significant determinant of quality of life and one of the protective factors that affect psychological resilience. Treatment and care for ESRD, which is a chronic disease, may lead to a serious increase in healthcare expenditures and affect the income level of the individual, therefore affecting their resilience negatively.

In this study, it was determined that, as the disease duration increased, the psychological resilience of the patients also decreased. Cho and Yoo (2014) reported that the current statuses of hemodialysis patients are a factor that affects their psychological resilience. ESRD is a chronic, irreversible and life-threatening illness (Liu et al. 2018; Suleymanlar et al. 2017). The physical, mental, social and economic problems that emerge as the disease progresses may pave the way for reduced psychological resilience. This is why developing strategies that account for the individual characteristics and needs of patients and aim to increase their skills of coping with disease-related stressors may contribute to increasing the psychological resilience of patients.

Another important finding of the study was that there was a positive relationship between spiritual well-being and psychological resilience. That is, spiritual well-being is a significant variable that affects psychological resilience. Likewise, a limited number of previous studies showed that, as the spiritual well-being levels of hemodialysis patients increased, their psychological resilience also increased (Jenaabadi and Mir 2019; Freire de Medeiros et al. 2017). In the literature, it has

been stated that spirituality is an important coping mechanism, and it provides hope for coping with stressors, increases psychological resilience and improves post-traumatic growth (Eksi et al. 2019; Gultekin et al. 2019; Li et al. 2018; Martínez and Custódio 2014). Taheri-Kharameh (2016) reported that hemodialysis patients with high spiritual well-being levels used problem-oriented coping strategies more. Al-Ghabeesh et al. (2018) determined that spirituality helped patients with kidney failure cope with their psychological problems, strengthened them in acceptance of their disease and helped them in feeling stronger in facing their disease. While spirituality is a unique tool in increasing the psychological resilience of patients, it may be stated that the spiritual needs of patients are not sufficiently met. A study reported that 35–53% of hemodialysis patients required spiritual care (Davison and Jhangri 2010). In this sense, determination and meeting of the spiritual needs of patients by nurses may contribute to preventing mental disorders and increasing the quality of life of patients by increasing psychological resilience.

Limitations

ESRD is a disease with high rates of mortality and morbidity whose prevalence is increasing fast. The findings of this study are valuable in terms of discussing psychological resilience and associated factors in hemodialysis patients. However, our study has some limitations. Firstly, it is an important limitation that as the study was carried out with a small sample, its result may only be generalized for its own population. Secondly, a cross-sectional study design is limited in establishing a causal association between spiritual well-being and resilience.

Conclusions

In this study, it was found that the spiritual well-being levels of the patients were high, while their psychological resilience levels were medium. Education level, economic level, duration of disease and spiritual well-being were determined to be statistically significant predictive factors of the patients' resilience. The findings of the study are important in terms of raising awareness on the importance of spiritual care by nurses who provide care for hemodialysis patients. In the light of these results, it may be recommended to assess all hemodialysis patients in terms of psychological resilience and determine their spiritual needs. This way, by considering the individual and disease-related characteristics that affect the psychological resilience of patients, nurses may provide evidence-based, individualized psychosocial and spiritual care, education and counseling services. It is important to provide these services continuously and monitor them in regular intervals by the time patients are diagnosed with ESRD. Environments that could make it easier for patients to have their spiritual practice may be established at hemodialysis units. Moreover, with the purpose of better explaining the causal relationship between psychological resilience and affecting factors in hemodialysis patients, being able to take confounding

variables under control and generalize the results to the society, longitudinal prospective studies with larger samples may be carried out.

Compliance with Ethical Standards

Conflict of interest All the authors declare that they have no conflict of interest.

Ethical Approval Ethics committee approval was received for this study. All procedures performed in the study were in accordance with the ethical standards of university ethics committee.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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