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THE EFFECT OF SOCIAL SUPPORT AND SPIRITUAL WELL-BEING ON POSTTRAUMATIC GROWTH IN DIALYSIS PATIENTS AND THEIR CAREGIVERS

DİYALİZ HASTALARI VE BAKIM VERENLERİNDE SOSYAL DESTEK VE SPİRİTÜEL İYİ OLUŞUN TRAVMA SONRASI BÜYÜMEYE ETKİSİ

Canan Kömürcü[1], Ayşe Kuzu[2*]

[1]Ministry of Health, Pursaklar State Hospital, Ankara, Turkey

[2]Department of Medical Services and Techniques, Ahmet Erdoğan Vocational School of Health, Zonguldak Bülent Ecevit University, Zonguldak, Turkey

ABSTRACT

Objective: This study was conducted to determine the effect of social support and spiritual well-being on posttraumatic growth in dialysis patients and their caregivers.

Method: The population and sample of the research consisted of all dialysis patients (n=44) and their caregivers (n=44) who received inpatient or outpatient dialysis treatment at the Health Research and Application Center in the Department of Nephrology at Zonguldak Bulent Ecevit University between 13 July 2019 and 17 October 2019. The data were collected using the Multidimensional Scale of Perceived Social Support, the Spiritual Well-Being Scale, and the Posttraumatic Growth Inventory.

Results: The results showed that there was a positive correlation between the posttraumatic growth, spiritual well-being and social support scores of the dialysis patients ($p<0.001$) and their caregivers ($p<0.001$). Social support and spiritual well-being explained posttraumatic growth by 74.8% in the patient group and 54.0% in the caregiver group.

Conclusion: Posttraumatic growth increased as perceived social support and spiritual well-being increased in both the patient and caregiver groups and spiritual well-being and social support affected posttraumatic growth.

Key Words: Dialysis, Posttraumatic Growth, Social Support, Spirituality, Nursing

ÖZ

Amaç: Bu araştırma, diyaliz hastaları ve bakım verenlerinde sosyal destek ve ruhsal iyi oluşun travma sonrası gelişime etkisini belirlemek amacıyla yapılmıştır.

Yöntem: Araştırmanın evren ve örneklemini 13 Temmuz 2019-17 Ekim 2019 tarihleri arasında Zonguldak Bülent Ecevit Üniversitesi Sağlık Araştırma ve Uygulama Merkezi Nefroloji Bilim Dalı'nda yatarak ya da ayaktan diyaliz tedavisi gören tüm diyaliz hastaları (n=44) ve bu hastaların bakım vericileri (n=44) oluşturdu. Çalışmanın verileri Çok Boyutlu Algılanan Sosyal Destek Ölçeği, Spritüal İyi Oluş Ölçeği, Travma Sonrası Büyüme Ölçeği kullanılarak toplandı.

Bulgular: Çalışma sonuçları, diyaliz hastaları ($p<0.001$) ve bakım verenlerinde ($p<0.001$) travma sonrası gelişim, spritüal iyi oluş ve sosyal destek puanları arasında pozitif yönde bir ilişki olduğunu gösterdi. Sosyal destek ve spritüal iyi oluşun travma sonrası büyümeyi hasta grubunda %74.8 ve bakım veren grubunda %54.0 açıkladığı görüldü.

Sonuç: Hem hasta hem de bakım veren grubunda algılanan sosyal destek ve spritüal iyi oluş arttıkça travma sonrası büyüme artmış ve spritüal iyi oluş ve sosyal destek travma sonrası büyümeyi etkilemiştir.

Anahtar Kelimeler: Diyaliz, Travma Sonrası Büyüme, Sosyal Destek, Spiritualite, Hemşirelik

INTRODUCTION

Chronic kidney disease (CKD) is an important disease which is frequently encountered worldwide and threatens life [1]. Dialysis is used in the treatment of CKD. Although it increases the life span of patients significantly, it causes significant changes to the life of the patient. The obligation to go to a health care institution and connect to a machine on specific days and times during the week; physical limitations, fatigue, weakness, muscle cramps [1,2]; loss of sexual function [2], and diet constraints negatively affect the family, work and social life of the patient, reduce the quality of life and cause fear of dependence and death [3]. Being on dialysis is a very challenging process that has physical, psychological, social and economic dimensions both for patients and for their caregivers, who are mostly their spouses or children [3,4].

The family member who takes most care of the dialysis patient can be considered as a "partner in dialysis" who handles all dialysis-related problems. CKD and dialysis constitute a serious trauma that completely changes the life of both the patient and the caregiver.

Traumatic events may have both physical and psychological consequences, including anxiety, depression, alcohol and substance use disorder, and suicide and posttraumatic stress disorder [5]. However, trauma may not always result in negative mental states and events. Those positive changes that may occur in an individual after trauma have been defined as "perceived benefit", "stress-related growth" or "posttraumatic growth" [6,7]. The magnitude of the trauma, individual characteristics, the length of time since the trauma occurred, acceptance of the situation, the use of appropriate coping methods and the ability to "keep hope alive" have been reported to affect

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***Sorumlu yazar/Corresponding author:** Zonguldak Bülent Ecevit University, Ahmet Erdoğan Vocational School of Health, Department of Medical Services and Techniques, Zonguldak, Turkey

[2*]Email: aysekuzu@gmail.com, [1]Email: canan.kmrc@yandex.com

posttraumatic growth [8,9]. Studies report that social support and spiritual well-being also affect posttraumatic growth [9,10-13].

Providing counseling to the patient and his/her family about how to cope with the traumatic event, recognizing and finding different solutions, and developing effective methods to cope with stress is one of the mission of nursing. Nurses' awareness about how to respond to traumatic experiences and to support the posttraumatic growth of dialysis patients and their caregivers will lead to improvements in patients' and caregivers' mental health. Studies have been conducted about the posttraumatic growth experiences of dialysis patients [14-16]; however, no study is available about how caregivers experience this traumatic situation that completely changes their lives and about the factors affecting. For this reason, this study was planned as a descriptive and cross-sectional study to determine the effect of social support and spiritual well-being on posttraumatic growth in dialysis patients and their caregivers.

METHOD

The population and sample of the research consisted of all dialysis patients (27 hemodialysis and 17 peritoneal dialysis patients (n=44) who received inpatient or outpatient dialysis treatment in the Health Research and Application Center of the Department of Nephrology of Zonguldak Bülent Ecevit University between 13 July 2019 and 17 October 2019, and their caregivers (n=44). The inclusion criteria for the patients were being at a cognitive level to understand the questions, speaking Turkish and agreeing to take part in the study. The inclusion criteria for the patient relatives were being a caregiver constantly taking care of the patient, in addition to the aforementioned criteria.

Data Collection Tools

The data were collected using the Personal Information Form (PIF) which was created by the researcher, the Posttraumatic Growth Inventory (PGI), the Multidimensional Scale of Perceived Social Support (MSPSS) and Spiritual Well-Being Scale (SWBS).

Personal Information Form (PIF): The form was prepared by the researchers and consisted of six questions about the sociodemographic (age, gender, marital status, education, income) and health-related (dialysis type) characteristics of dialysis patients and caregivers.

Posttraumatic Growth Inventory (PGI): The inventory was developed by Tedeschi and Calhoun (1996) to evaluate the posttraumatic changes experienced by individuals. It consists of 21 items and five subdimensions. It has a six-point Likert type rating system and each item scores between 0 and 5 points. The Turkish adaptation of the inventory was made by Dürü in 2006 [17]. Factor analysis found that this version of the scale was consistent with its original form. It consists of five factors (relating to others, new possibilities, personal strength, spiritual change and appreciation of life). The total scale score is calculated by adding up the score for each item. A high scale score indicates that the individual has experienced a high level of growth. The Cronbach's alpha internal consistency coefficient of the original scale was 0.93. In this study, the Cronbach alpha coefficient was found to be 0.96 in the patient group and 0.93 in the caregiver group. The PGI was evaluated using the total score.

Multidimensional Scale of Perceived Social Support (MSPSS): This scale was developed by Zimet et al. (1988). The Turkish validity and reliability study of the scale was carried out by Eker and Arkar in 1995 [18]. The seven-point Likert-type scale subjectively evaluates the adequacy of social support from three different sources and consists of 12 items. The scale consists of three subscales regarding the source of social support (family, friends and a significant other). The scale score is calculated by adding up the scores for each item. A high scale score indicates that perceived social support is high. The Cronbach's alpha internal consistency coefficient of the original scale was 0.89. In this study, the Cronbach's alpha coefficient was calculated as 0.95 in the patient group and 0.93 in the caregiver group. The MSPSS was evaluated using the total score.

Spiritual Well-Being Scale (SWBS): This scale was developed to determine how adults understand, give meaning to and live their lives in terms of their values and in relation to personal, social, environmental and transcendental factors. It was developed by Ekşi and Kardaş in 2017, who conducted the validity and reliability study of the scale [19]. The scale has a five-point Likert-type rating system and consists of 29 items. The scale includes subscales of "Transcendence", "Harmony with Nature" and "Anomie". The Cronbach's alpha internal consistency coefficient of the original scale was 0.88. In this study, the Cronbach's alpha coefficient was calculated as 0.94 in the patient group and 0.91 in the caregiver group. In this study, the SWBS was evaluated using the total score.

Statistical Analysis

The SPSS 21.0 (SPSS Inc., Chicago, IL, USA) software was used in the statistical analysis of the findings obtained in the study. The Student's t-test and one-way ANOVA were used in the comparison of quantitative data, and the Tukey test was used to identify the group causing the difference. Pearson correlation analysis was used to determine the correlation between the scales and multiple regression analyses were performed to determine the relative effect between the scale scores. The results were evaluated at a 95% confidence interval and $p<0.05$ significance level.

Ethical Consideration

To conduct the study, necessary permissions were received from the Medical Research Ethics Committee of Zonguldak Bülent Ecevit University (Number: 33479383/35), and the Health Research and Application Center at Zonguldak Bülent Ecevit University (Number: 26/07/2019-37002), where the study was conducted. Voluntary consent was obtained from the patients and caregivers who participated in the study. This study was performed in accordance with the principles of the Declaration of Helsinki.

RESULTS

45.5% (n=20) of the patients who participated in the study were aged 50 and over; 65.9% (n=29) were male; 54.5% (n=24) were married; 50.0% (n=22) were primary school graduates; 52.3% (n=23) had low income level; and 63.6% (n=27) received hemodialysis treatment; and 47.7% (n=21) of the caregivers were aged 50 and over; 70.5% (n=31) were female; 84.1% (n=37) were married; 47.7% (n=21) were primary school graduates; 50.0% (n=22) had low income level.

When the mean PGI, MSPSS and SWBS scores of the patients were examined according to the sociodemographic characteristics, it was found that there was a significant difference between age and PGI and SWBS scores, between marital status and SWBS scores, and between income level and PGI and SWBS scores ($p<0.05$).

Individuals aged over 50 had higher posttraumatic growth ($p=0.031$) and spiritual well-being levels ($p=0.001$) than those in other age groups. Single patients had low SWBS scores ($p=0.017$). When the patients were examined according to the income level, those who had a high income level were found to have significantly higher PGI ($p=0.015$) and SWBS ($p=0.012$) scores.

Gender, educational level and dialysis type did not affect the patients' PGI, MSPSS and SWBS scores (Table 1).

When the mean PGI, MSPSS and SWBS scores of the caregivers were examined according to their sociodemographic characteristics, it was found that there was a significant difference between marital status and MSPSS scores ($p=0.017$). Those who were married were found to have significantly higher MSPSS scores ($p=0.018$) than those who were widowed and divorced.

Age, gender, education, income level and dialysis type did not affect the caregivers' PGI, MSPSS and SWBS scores (Table 1).

Table 1. Comparison of PGI, MSPSS and SWBS scores of dialysis

	Characteristics (n)	PGI (x̄ ± SD)	p	MSPSS (x̄ ± SD)	p	SWBS (x̄ ± SD)	p
	Age[a,b]						
Patient	20-29 (7)	59.00± 27.78	**0.031**	60.85±18.81	0.878	93.71 ±21.52	**0.001**
	30-49 (17)	71.64± 22.74		58.29 ±18.91		109.83±16.76	
	≥ 50 (20)	84.30± 20.72		60.85±17.12		123.05±13.29	
Caregiver	20-29 (4)	81.75±19.10	0.563	55.25±18.71	0.097	112.50±17.07	0.554
	30-49 (19)	79.57±17.41		70.10±13.64		121.15±14.69	
	≥ 50 (21)	74.23±18.20		62.66±13.78		120.71±14.59	
	Gender[c]						
Patient	Female (15)	86.06±20.13	0.140	53.20±17.07	0.091	110.46±18.12	0.486
	Male (29)	79.17±24.59		63.31±17.31		114.72±19.49	
Caregiver	Female (31)	76.77±17.75	0.797	65.96±14.31	0.599	118.90±16.12	0.384
	Male (13)	78.30±18.88		63.38±15.75		123.15±9.99	
	Marital status[a,b]						
Patient	Married (24)	80.54±20.11	0.252	63.08±15.19	0.250	117.46±16.47	**0.017**
	Single (9)	66.22±28.50		60.22±20.90		97.55±22.73	
	Other (11)	73.63±25.45		52.54±19.60		117.00±15.00	
Caregiver	Married (37)	78.48±16.87	0.071	66.78±13.37	**0.018**	120.02±15.25	0.954
	Single (4)	82.50±18.24		67.50±7.76		119.50±8.22	
	Other (3)	55.00±17.75		42.6621.59		122.66±16.92	
	Education[a,b]						
Patient	Primary (22)	70.22±24.75	0.203	57.81±18.85	0.346	111.45±18.44	0.724
	High (16)	77.31±23.37		59.00±16.41		113.81±21.23	
	University (6)	89.16±14.03		69.66±16.15		118.50±15.94	
Caregiver	Primary (21)	71.57±19.47	0.110	62.2±16.61	0.459	119.47±17.37	0.824
	High (15)	80.86±14.20		66.86±13.74		119.53±12.22	
	University (8)	85.25±15.82		69.37±9.84		123.12±11.64	
	Income[a,b]						
Patient	Low (23)	66.08±23.24	**0.015**	54.26±18.06	0.078	105.39±18.64	**0.012**
	Average (20)	84.80±19.91		65.50±15.70		122.10±15.84	
	High (1)	101.00±0.00		76.00±0.00		118.00±0.00	
Caregiver	Low (22)	72.50±20.43	0.085	60.59±17.42	0.096	117.68±17.63	0.514
	Middle (21)	83.04±12.76		69.74±9.56		112.86±10.82	
	High (1)	59.00±12.76		77.00±0.00		118.00±0.00	
	Dialysis[c]						
Patient	Peritoneal (17)	69.17±23.75	0.168	55.35±18.02	0.196	108.58±20.39	0.149
	Hemodialysis (27)	79.29±22.98		62.70±17.23		116.56±17.55	
Caregiver	Peritoneal (17)	79.41±12.26	0.524	66.57±9.57	0.639	120.29±10.37	0.962
	Hemodialysis (27)	75.85±20.57		64.37±17.17		120.07±16.92	

**Other: Divorced and widowed, Statistical tests: [a] One Way Anova, [b]Post Hoc: Tukey, [c]Student t test, PGI:Posttraumatic Growth Inventory, MSPSS: Multidimensional Scale of Perceived Social Support*

When the correlations between the patients' scale scores were examined, there was a positive and strong correlation between the PGI and MSPSS scores (p=0.000; r=0.675), and between the PGI and SWBS scores (p=0.000; r=7.99). When the correlations between the caregivers' scale scores were examined, there was a positive and strong correlation between the PGI and MSPSS scores (p=0.000; r=0.598), and between the PGI and SWBS scores (p=0.000; r=0.690) (Table 2).

When the multiple effects of perceived social support and spiritual well-being levels on posttraumatic growth in the patients were examined, it was determined that the model created had an effect on posttraumatic growth and that the MSPSS and SWBS explained 74.8% of posttraumatic growth (R^2=0.748, p=0.000 (Table 3).

When the multiple effects of perceived social support and spiritual well-being levels on posttraumatic growth in the patients' caregivers were examined, it was found out that the model created had an effect on posttraumatic growth and that the MSPSS and SWBS explained 54.0% of posttraumatic growth (R^2=0.540, p=0.000 (Table 4).

DISCUSSION

This study examined the mean PGI, MSPSS and SWBS scores of dialysis patients and caregivers according to their sociodemographic characteristics. There was no significant difference in the MSPSS scores of the patients according to their age, while those who were aged 50 and over were found to have higher PGI and SWBS scores compared to the other age groups. Li et al. (2018) conducted a study with dialysis patients and determined that the posttraumatic growth of young patients in the 22-40 age group was higher than that of older patients [15].

Studies conducted with different patient groups also report that posttraumatic growth is higher at young ages [11,20]. These results may indicate a greater concern with their lives and a higher degree of motivation in young individuals. However, in Turkish culture, individuals generally become more involved in religion as they age, and it is thought that may have an effect on the posttraumatic growth of patients.

Table 2. Correlation between PGI, MSPSS and SWBS scores of dialysis patients and caregivers

Correlation			PGI	MSPSS	SWBS
Patient	PGI	r	1	.675**	.799**
		p		.000	.000
	MSPSS	r		1	.458**
		p			.002
Caregiver	PGI	r	1	.598**	690**
		p		.000	.000
	MSPSS	r		1	.500**
		p			.000

*Pearson correlation, ** p<0.001, PGI: Posttraumatic Growth Inventory, MSPSS: Multidimensional Scale of Perceived Social Support, SWBS: Spiritual Well-Being Scale*

Table 3. The effect of MSPSS and SWBS scores of dialysis patients on their PGI scores

Model	NSC		SC	t	Sig	R^2
	B	Std.Error	B			
Constant	-43.094	11.002		-3.917	.000	
MSPSS	.520	.114	.391	4.541	.000	.748
SWBS	.771	.107	.620	7.207	.000	

Dependent variable: PGI

NSC: Nonstandardized Coefficients, SC: Standardized Coefficients, PGI: Posttraumatic Growth Inventory, MSPSS: Multidimensional Scale of Perceived Social Support, SWBS: Spiritual Well-Being Scale

Table 4. The effect of MSPSS and SWBS scores of dialysis patients' caregivers on their PGI scores

Model	NSC		SC	t	Sig	R^2
	B	Std.Error	B			
Constant	-25.667	15.238		-1.684	.000	
MSPSS	.410	.145	.338	2.827	.007	.540
SWBS	.634	.145	.512	4.365	.000	

Dependent variable: PGI

NSC: Nonstandardized Coefficients, SC: Standardized Coefficients, PGI: Posttraumatic Growth Inventory, MSPSS: Multidimensional Scale of Perceived Social Support, SWBS: Spiritual Well-Being Scale

The spiritual well-being of the dialysis patients aged 50 and over in the current study was high, supporting this idea. When other studies on spiritual well-being conducted with different patient groups were examined, spiritual well-being was not affected by age in some studies [21,22]. On the other hand, Ekşi and Kardaş reported that spiritual well-being increased with age, which is consistent with our study's findings [19]. In the current study, there was no significant difference between age and perceived social support in the dialysis patients. The results of the study of Theodoritsi et al. also support this finding [23].

There was no significant difference between gender and the PGI, MSPSS and SWBS scores of the dialysis patients. The results of studies conducted on this subject differ. Some studies have reported that posttraumatic growth was higher in women [15,24]; however, as in this study, some have reported no difference between genders [14,20]. A study on perceived social support has found no difference between gender and perceived social support, which is consistent with the results of our study [23].

There was no significant difference between marital status and the PGI and MSPSS scores of the patients. Those who were married were found to have higher SWBS scores than those who were single. One study conducted on posttraumatic growth reported that marital status did not affect posttraumatic growth [15]; however, another study reported that those who were single had high posttraumatic growth scores [14]. In our present study, it was determined that dialysis patients who were married had high spiritual well-being. Nevertheless, a study conducted with patients who were receiving dialysis treatment [25] showed that there was no difference between spiritual well-being and marital status. In contrast, one study examining the correlation between marital satisfaction and spirituality reported a correlation between marital satisfaction and spiritual well-being [26]. It is thought that the fact that all the patients in the current followed the Islamic faith, which is a religion that supports marriage and family life, had an effect on these results. The specific cultural characteristics of Turkish society may also have had an impact on them. The current study showed that marital status did not affect the patients' perceived social support. However, in addition to Gündüz's study that supports our findings [27], there is a study reporting that married patients have a high level of perceived social support [23]. Dialysis, which changes an individual's life completely, is a difficult process for patients and their spouses and this may have had an effect on these results.

Studies conducted with CKD patients and dialysis patients show that a higher educational level affects posttraumatic growth positively [14,15]. In this study, there was no difference between the scale scores according to the educational level. Similar to our finding, Gündüz reported that education did not affect perceived social support [27]. These differences and similarities may have resulted from the constitution of our sample group and culturally-specific factors.

No significant difference was found between the income level and MSPSS scores in the patient group; however, those who had a high and moderate income were found to have higher PGI and SWBS scores compared to those who had a low level of income. Relevant studies have shown that having a high income affects posttraumatic growth positively [14,15]. No results could be found in the literature regarding the income level and spiritual well-being of dialysis patients. However, a study conducted with elderly individuals with chronic diseases showed that the spirituality scores of individuals who had a low level of income were also low [28]. Furthermore, it was determined that there was no significant correlation between income and spirituality in cancer patients [29] and elderly individuals [30]. These results suggest that economic well-being partially reduces the effect of trauma and increases posttraumatic growth and spiritual well-being

Studies on posttraumatic growth showed that the dialysis type [16] and the status of receiving medical or dialysis treatment did not affect posttraumatic growth [14]. In the current study, there was no significant difference between the treatment method and the scale scores.

The study examined the mean PGI, MSPSS and SWBS scores of the dialysis patients' caregivers according to their sociodemographic characteristics. However, when studies conducted with caregivers were examined, no study could be found regarding posttraumatic growth, social support and spiritual well-being. It was seen that studies conducted with caregivers focused more on the care burden, depression, quality of life and social support [3,4,31]. Only one study was conducted on the social support levels of hemodialysis patients' caregivers, and factors that may affect social support were not compared [32]. When the mean PGI, MSPSS and SWBS scores of the caregivers in this study were examined according to the sociodemographic characteristics, it was determined that only the caregivers who were married had significantly higher MSPSS scores compared to those who were widowed and divorced. One study conducted with the caregivers of dialysis patients stated that individuals who had a high degree of social support and good marital relations coped better with problems and had a high quality of life [31]. Moreover, among caregivers of stroke patients who required continuous care [33], or who had chronic obstructive pulmonary disease patients [34], those who were married had higher levels of perceived social support. On the other hand, some studies have found

that marital status did not affect social support [27,35]. As in many societies, being married does not only imply having a spouse in Turkish society but also usually involves children and relatives who are also a source of social support. In this study, the caregivers' age, gender, educational level, income status and dialysis type did not affect their PGI, MSPSS and SWBS scores. Similar results were obtained in studies conducted on perceptions of social support with caregivers of individuals with other chronic diseases. In these studies, perceived social support did not change according to age [27], gender [27,35], education [35].

The results of the current study also showed that posttraumatic growth increased as perceived social support and spiritual well-being increased in both the patient and caregiver groups. Studies carried out with different patient groups have found a positive correlation between posttraumatic growth and social support [9,36-38], between posttraumatic growth and spirituality [38]; and between social support and spirituality [9].

In the current study multidimensional perceived social support and spiritual well-being explained posttraumatic growth by 74.8% in the patient group and 54.0% in the caregiver group. No study investigating the effect of spirituality on posttraumatic growth in dialysis patients and their caregivers was found. However, studies conducted with patients who had cancer showed that social support [36]; and spirituality [39]; a study conducted with patients who had myocardial infarction [40] showed that spirituality affected posttraumatic growth. As understood from the results of this study, social support and spirituality strongly affect the development of posttraumatic growth. The results of the research done by Özcan and Arslan support these findings [38]. Although their study was carried out with individuals who had experienced terrorist incidents, it revealed that both social support and spirituality had an effect on posttraumatic growth.

Limitations

The results are based on cross-sectional data, so a causal relationship between variables cannot be inferred. Longitudinal and experimental studies are thus needed to better understand the relationship between patients and the caregivers and the variables. In addition, only a small number of participants could be included in the study, since only patients and caregivers who were treated in one hospital took part. For this reason, it is recommended that future studies be carried out with larger groups.

CONCLUSION

In conclusion, both the posttraumatic growth and spiritual well-being scores of the patients who were young (20-29 years), who had poor income levels were found to be statistically significantly low. Among caregivers, the perceived social support scores of those who were widowed or divorced were significantly low. Based on these results, it is suggested that it would be particularly beneficial to evaluate psychosocially from the beginning of their treatment of patients who are young, and who have poor income levels. Besides such evaluations should also be made of widowed or divorced caregivers. In addition, consultation liaison psychiatric nurses also should be included in the care process with dialysis nurses. Consultation liaison psychiatric nurses; the social support systems of patients and caregivers should be investigated; collaboration with other public institutions and organizations should be considered when necessary; and the specific spiritual needs of patients should be evaluated and supported.

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