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Comparison of Marital Satisfaction in Hemodialysis and Peritoneal Dialysis Patients

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Abstract

Alternative kidney treatments, including renal transplantation, hemodialysis (HD), and peritoneal dialysis (PD), are administered when severe kidney failure occurs and the kidney can no longer function. The present study compares different dimensions of marital satisfaction in HD and PD patients so as to assist physicians and patients in choosing their appropriate treatment. This cross-sectional descriptive-analytical study was performed on 77 hemodialysis and 46 peritoneal dialysis patients who had referred to the Hemodialysis, Peritoneal Dialysis, and Nephrology wards of Imam Reza Hospital and Ghaem Hospital, Tehran, in 2018. Marital satisfaction was significantly different between HD and PD patients, with the latter displaying a greater score in this regard ($p < 0.05$). PD patients also enjoyed a higher level of satisfaction with personality issues, communication, conflict resolution, leisure activities, sexual relationships, children and parenting, and religious orientation ($p < 0.05$). However, satisfaction with financial management and family and friends made no significant difference between HD and PD patients ($p > 0.05$). Other results suggested that gender, education level, age, number of children, disease onset, type of delivery, and urinary tract infection do not have a significant impact on marital satisfaction ($p > 0.05$), but diabetes, hypertension, occupational status, and income level significantly affect this variable ($p < 0.05$). This study provided evidence that PD patients, compared with HD patients, experience a higher satisfaction with marital life, especially in terms of personality issues, communication, conflict resolution, leisure activities, sexual relationships, children and parenting, and religious orientation.

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Introduction

Renal failure worldwide is considered one of the major public health problems and is associated with temporary or permanent damage to the kidneys, leading to loss of normal kidney function (Sayin, 2007; Matsumura et al., 2018). Kidney disease is one of the main causes of mortality (Ferguson et al., 2015; Bravo-Jaimes et al., 2015). Patients in the last stage of chronic kidney disease (CKD) undergo dialysis to survive (Nayana et al., 2017). Dialysis is a process for the removal of uremic waste products from the body used when the kidneys cannot perform this function (Pasquale et al., 2019). The purpose of dialysis is to maintain acid-base and electrolytes equilibrium of the body, eliminate metabolic waste, and obtain normal body conditions (Gokal et al., 2004). Alternative renal treatments, including renal transplantation, hemodialysis (HD) and peritoneal dialysis (PD), are used in the case of severe kidney failure when the kidneys cannot do their job. In this regard, HD is the most common method. In patients with CKD, hemodialysis prevents death but is not a treatment for renal disease and does not compensate for intracellular and metabolic activities of the kidneys. In fact, it exposes the patient to a number of problems and complications (Smeltzer et al. 2010). On the other hand, peritoneal dialysis has been widely used since the 1980s to treat renal insufficiency (U.S Department of Health and Human Services, 2006). As a proven method of alternative kidney treatment, PD has become very popular thanks to its simplicity, easy access, and relatively low cost (Bargman, 2007). In late 1997, just 15% of patients with end-stage renal disease (ESRD) in the world underwent peritoneal dialysis (Keshvari et al., 2006). In a 2019 survey, however, this figure was estimated at 25% (Rahimimoghadam et al., 2019). Of course, this method of dialysis is not without its own problems, and its complications do affect patients' willingness to choose it for treatment. PD side effects include bleeding and pain during catheter insertion, obstruction, catheter displacement and leakage, abdominal wall hernia, catheter-site infection, and severe peritonitis (Brook et al., 2004). Peritonitis could even restrict the use of peritoneal dialysis (Bargman, 2007)

According to the Kidney Foundation of Iran, there are a total of 72,000 patients with ESRD in the country. In 2015, there were about 24,000 dialysis patients; each year, around 5,000 new patients have been added to this number. In general, kidney failure affects 75 in 1,000,000 in Iran (Zamanzadeh et al., 2007; Rahimimoghadam et al., 2019).

There are a lot of controversies over which alternative treatment method is best for CKD patients (Lee et al., 2016). As for dialysis, one of the methods is administered depending on the patient's situation and preference as well as the physician's opinion. Hemodialysis should be carried out by a medical team at the hospital through a device in which the blood flows and leaves after purification. On the other hand, peritoneal dialysis is done most often by the individual at home. (Of course, the patient needs to be trained on how to do the procedure.) In peritoneal dialysis, the abdominal cavity or peritoneum is used to clean the blood through a device which is applied at a relatively simple abdominal surgery. These two dialyses have implementation differences, and the choice depends on examinations and medical history of the patient (Zamanzadeh et al., 2007). The rising number of these patients in the world suggests that the number of people undergoing alternative treatments such as kidney transplantation, PD, and HD is also increasing (Glover et al., 2011; Elise et al., 2018).

Having chronic and debilitating illnesses such as kidney disease is one of the most frustrating and life-threatening life events that can lead to psychological distress, physical problems, and short life expectancy (Nayana et al., 2017). More than 60,000 people die globally each year due to CKD (Burrows-Hundson, 2005).

Chronic diseases and long-term treatments affect many aspects of a person's life (Tamura et al., 2018). They also prompt physical, social, and psychological tensions and reduce quality of life by posing restrictions, changing lifestyle, and lowering individual adaptation (Pasquale et al., 2019; Ring et al., 2016; 14. Ferreira and Silva Filho, 2011; Maua et al., 2008; Rayner et al., 2014). Dialysis helps renal patients to survive but has an adverse effect on their family and social life (Wan et al., 2015; Oeyen et al., 2015) and gives rise to stressful restrictions (Tagay et al., 2007). It may entail a lot of changes in the life of patients and their families (Tuinmanet al., 2005) and change their lifestyle (Hinnen, 2008; Kendal, 2011). Common stressors in dialysis

patients are weakness, lack of control over illness and treatment, undergoing unwanted treatments, limitation following therapeutic regimens, changes in self-image, and financial as well as sexual problems (Mota et al., 2019). Altogether, these factors cause depression, anxiety, and, finally, a reduction in patients' marital satisfaction (Zegarow et al., 2014; Lazarus, 2018; Preljevic et al. 2013; Pertuza et al., 2014). Studies have shown that marital life is unsettled in CKD patients who are treated by methods such as dialysis, and these people suffer from multiple problems in this aspect of their life (Zegarow et al., 2014; Pasquale et al., 2019; Seethala et al., 2009; Pertuza et al., 2014; Chung and Choi, 2010). Marital life in these patients is predicated on many factors, including psychological and physiological ones (Rathi and Ramachandran, 2012). Developing healthy and constructive interactions between human beings, maintaining amiable relationships between individuals, and expressing one's sympathy for other people are some of the building blocks of human social life (Mota et al., 2019). Satisfaction of a person with marital life implies his/her satisfaction with the family, and family satisfaction is conducive to life satisfaction, thereby facilitating material and spiritual growth of the society (Redzoal, 2016). The literature on marital satisfaction mainly views this concept based on the definition given by Ellis (1989). Marital satisfaction is accordingly regarded as the concrete feeling of happiness, contentment, and pleasure experienced by the husband and wife with respect to all their mutual relationships. Marital satisfaction is a person's overall assessment of marital relationships. This assessment can reflect people's level of happiness and joy in their marital life or their satisfaction with various aspects of marital relations (Brockwood, 2007). Marital satisfaction has an enormous impact on the family and the physical and mental health of its members. sexual intercourse is the primary objective of any marriage (Halford, 2005). Marital satisfaction is a multifaceted phenomenon involving behavioral, cognitive, and emotional dimensions (Aronson, 2008; Vimz and Pina, 2010). Each of these components has been separately studied through their respective approaches (Froyen, 2013).

Maintaining a good quality of life which could guarantee life satisfaction is consequential enough to lead to the survival of most patients with progressive and chronic diseases. Life satisfaction is a mental issue and is not solely influenced by physiological or clinical

factors. In fact, people with similar conditions have a different perception of their quality of life (Lin et al., 2010). Physical and mental symptoms of chronic diseases such as renal failure cause social isolation, seclusion, and rumination. Consequently, the role of patients in the family and social life is transformed and their life satisfaction plummets. Additionally, dependence on others in routine activities will make them lose their interest in their marriage; thus, life quality and satisfaction of these patients are also negatively affected (Molly, Johnston, Witham, 2007). Heavily influenced by chronic diseases, life satisfaction is built on one's perception of personal satisfaction with his/her place within the culture and value system in which he/she inhabits. It is also related to goals, expectations, principles, preoccupations, and individual choices (Diener, 1988).

When a person feels satisfied with his/her life and is not unhappy about being sick, he/she will have a greater motivation for self-care. When a person displays a good self-care, he/she will feel better every day and will stay healthier; therefore, life satisfaction improves and this self-reinforcing positive cycle is sustained (Ragonesi and Taddei, 1998; Lin et al., 2010).

Although both HD and PD include contraindications and precautions, one of these methods is ultimately chosen jointly by the patient and the physician. Having awareness of the average marital satisfaction of patients could be adopted as a criterion for determining the appropriate method of dialysis. In view of the high rates of chronic kidney disease and the significance of marital satisfaction in adopting an appropriate treatment strategy, the purpose of this study is to compare marital satisfaction in PD and HD patients.

Method

This causal-comparative research as a descriptive cross-sectional study analyzed 123 patients (77 HD patients and 46 PD patients) admitted to Imam Reza and Ghaem hospitals (Tehran) between April and September 2018. The subjects of this research were collected by convenience sampling. After participants' consent being obtained, clinical information and history were collected via reviewing case files and completing a questionnaire. Age, gender, marital status, occupation, duration of dialysis, and education level were recorded. HD patients underwent a regular [dialysis] program (three times a week)

and PD patients received a standard CAPD program. The inclusion criteria were a minimum age of 15 years, a minimum of 6 months of dialysis experience, being married, personal consent and agreement for cooperation with the researcher. On the other hand, the exclusion criteria were active infection in the peritoneum in the last 3 months in PD patients, a history of hospitalization in the past 2 months, reluctance of patients to cooperate with the researcher, psychological problems and lack of literacy.

To assess marital satisfaction, the Enrich questionnaire, developed by Olson (1989) and standardized in Iran by Soleimanian (1994) were used; and the number of questions from 115 original questionnaire was 115 items and in Iran version, it contains 47 items and 12 subscales. The questions are answered using a 5-point Likert scale (from "strongly agree" to "strongly disagree"). Some of the items are scored in reverse order. Ellis (1989) obtained the reliability coefficient of this questionnaire (0.92); Sharifnia (2001) confirmed the validity coefficient of the questionnaire (0.92); and Soleimanian reported the concurrent validity of the 47-item questionnaire with its original form (0.95). In the present study, reliability was obtained using Cronbach's alpha coefficient (0.88) and split-half test (0.81). Validity was also achieved. Different subscales of EMS Scale include: Personality Issues, Communication, Conflict Resolution, Financial Management, Leisure Activities, Sexual Relationships, Children and Parenting, Family and Friends, Religious Orientation. Also, in the present study, Cronbach's alpha coefficient was 0.75 for the entire questionnaire and 0.58-0.66 for the subscales. Data analysis was performed in SPSS (version 25) using independent t-test and one-way ANOVA.

Results

According to the results presented in Table 1, marital satisfaction is not significantly different between men and women undergoing dialysis ($t = 0.639$, $p > 0.05$). However, satisfaction with marital life has a significant difference between employed and unemployed patients. Based on the resulting mean of satisfaction, marital satisfaction is higher among employed patients ($t = 2.02$, $p < 0.05$). Meanwhile, marital satisfaction does not vary significantly in terms of education level ($F = 0.539$, $p > 0.05$), age ($F = 0.606$, $p > 0.05$), number of children ($F = 1.37$, $p > 0.05$), disease onset ($t = 0.957$, $p > 0.05$), and type of delivery ($t = 1.17$, $p > 0.05$). On the other hand, while urinary tract

infection (t = 0.676, p> 0.05) does not significantly affect marital satisfaction in dialysis patients, diabetes (t = 3.39, p <0.05) and hypertension (t = 4.06, p <0.05) has a significant impact on this satisfaction in dialysis patients. Thus, renal patients with diabetes or hypertension are less satisfied with their marital life than those who do not have these two conditions. Also, based on the results, the income level of dialysis patients has a significant effect on marital satisfaction, so that the latter boosts as one's income rises (F = 4.53, p> 0.05).

Table 1. Comparison of marital satisfaction in dialysis patients based on general characteristics

Variable	Dimension	Frequen (percent)	Numb er	Mean	SD	Statistic	Significa nce Level
Gender	Male	82 (66.7)	82	140.96	9.51	t_{121}=0.639	0.128
	Female	41(33.3)	41	138.24	8.82		
Occupatio nal Status	Employed	68(59.1)	68	141.32	9.79	T113=2.02	0.046
	Unemploy ed	47(40.8)	47	137.85	7.87		
Education	Below High School Diploma	48(39.3)	48	138.77	9.65	F5.116=0.5 93	0.705
	High School Diploma	46(37.7)	46	141.39	9.57		
	Associate Degree	8(6.6)	8	139	7.71		
	Bachelor's Degree	12(9.8)	12	138.50	6.47		
	Master's Degree	6(4.9)	6	142.17	9.73		
	PhD.	2(1.6)	2	143.50	2.12		
Age (Year)	15-20	2(1.7)	2	145	5.66	F8.110=0.6(6	0.772
	26-30	10(8.4)	10	141.6	12.9 8		
	31-35	2(1.7)	2	138	5.66		
	36-40	14(11.8)	14	142.50	8.79		
	41-45	13(10.9)	13	138.15	8.71		
	46-50	10(8.4)	10	136.20	8.47		
	51-60	43(36.1)	43	140.42	9.29		
	61-70	17(14.3)	17	140-72	10.6 7		
	Above 70	8(6.7)	8	137	8.21		
Diabetes	No	98(66.7)	98	141.44	9.07	t121=3.39	0.001
	Yes	25(66.7)	25	134.64	8.51		
Blood Pressure	No	34(27.6)	34	145.26	9.42	t121=4.06	0.001
	Yes	89(72.4)	89	138.07	8.55		

Urinary Tract Infection	No	101(84.9)	101	140.62	9.27	t117=1.22	0.225
	Yes	18(15.1)	18	37.79	9.33		
Disease Onset	Before Marriage	12(10.5)	12	142.67	8.88	t112=0.957	0.341
	After Marriage	102(89.5)	102	139.93	9.42		
Number of Children	1	14(18.7)	14	139.86	7.58	F6.68=1.37	0.237
	2	19(25.3)	19	141.47	8.56		
	3	19(25.3)	19	139.37	8.13		
	4	8(10.7)	8	140.88	9.26		
	5	5(6.7)	5	133.20	11.43		
	6	8(10.7)	8	136.25	8.31		
	8	2(2.7)	2	150	2.83		
Type of Delivery	Cesarean Section	30(40.5)	30	137.37	7.75	T72=1.17	0.149
	Vaginal Delivery	44(59.5)	44	140.76	9.36		
Income	Less than 5000,000 rials	10(11.2)	10	130.5	8.88	F6.82=4.53	0.001
	5000,000-10,000,000 rials	29(32.6)	29	137.03	8.19		
	10,000,000-105,000,000 rials	20(22.5)	20	140.47	7.27		
	105,000,000-20,000,000 rials	10(11.2)	10	139.44	8.32		
	20,000,000-205,000,000 rials	8(9.0)	8	144.22	7.29		
	205,000,000-30,000,000 rials	6(6.7)	6	145.67	13.06		
	Above 30,000,000 rials	6(6.7)	6	148.17	7.19		

According to the results displayed in table-2 the mean of the level of satisfaction with personality issues, marital relationship, conflict resolution, financial management, leisure activities, sex, children and parenting, religious orientation and the general life satisfaction is

significantly higher among PD patients than HD ones while the level of satisfaction with family and friends is higher among HD patients than PD ones.

Table 2. Mean and Standard Deviation of the level of life quality in PD and HD patients

HD		PD		Variable
Standard Deviation	Mean	Standard Deviation	Mean	
13.82	49.93	12.74	58.76	physical Performance
22.57	61.85	23.51	51.63	Bodily Pain
11.42	47.92	12.45	54.02	General Health
19.85	32.87	18.70	35.19	Limitation due to Physical problems
19.71	20.78	18.53	15.04	Limitation due to Psychological Problems
20.15	29.38	11.29	43.26	Social functioning
8.76	46.14	7.39	52.52	Energy and Vitality
6.43	47.10	6.52	55.29	♀Emotional Health
22.57	61.85	23.51	51.63	Objective Quality of Life
11.42	47.92	12.45	54.02	Subjective Quality of Life
19.85	32.87	18.70	35.19	Quality of Life

The results of Multivariate Variance Analysis (MANOVA) in table-3 displays that the null hypothesis is rejected ($F_{(10,111)}=11.52$, $P<0.05$, Lambda= 0.491 , $\eta^2=0.509$) so the kind of dialyze has a significant role in determining the level of patients' satisfaction with their quality of lifeTable: Multivariate Tests

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
group	Pillai's Trace	.413	8.847[b]	9	113	.000	.413
	Wilks' Lambda	.587	8.847[b]	9	113	.000	.413
	Hotelling's Trace	.705	8.847[b]	9	113	.000	.413
	Roy's Largest Root	.705	8.847[b]	9	113	.000	.413

According to the results of table-4, the quality of life of HD and PD patients is significantly different in a way that the level of marital satisfaction in PD patients is more than their HD counterparts ($p<0.05$). Additionally, the level of satisfaction with personality issues, marital relationship, conflict resolution, leisure activities, sex, children and parenting, religion orientation and the general life satisfaction is significantly higher among PD patients than HD ones ($p<0.05$). Other results also indicate that the level of satisfaction with family and friends is higher among HD patients than PD ones ($p<0.05$).

Table 4. Comparison of life satisfaction of PD and HD patients

	Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
group	Physical Performance	2293.12	1	2293.12	12.71	.001	.095	12.71	.943
	Bodily Pain	3007.90	1	3007.90	5.72	.018	.045	5.72	.660
	General Health	1071.41	1	1071.41	7.67	.006	.060	7.67	.785
	Limitation due to Physical Problems	154.57	1	154.57	.41	.523	.003	.41	.097
	Limitation due to Psychological Problems	949.77	1	949.77	2.37	.126	.019	2.37	.333
	Social functioning	6402.06	1	6402.06	16.26	.000	.118	16.26	.979
	Energy and Vitality	4375.86	1	4375.86	33.16	.000	.215	33.16	1.000
	Emotional Health	1195.30	1	1195.30	9.21	.003	.071	9.21	.853
	Objective Quality of Life	1405.50	1	1405.50	7.69	.006	.060	7.69	.785
	Subjective Quality of Life	1809.20	1	1809.20	27.32	.000	.184	27.32	.999
	Quality of Life	1935.66	1	1935.66	46.30	.000	.277	46.30	1.000

The results of this study indicated that the quality of life in terms of general health, social functioning, energy and vitality, emotional health, objective and subjective life quality and also in life quality in general, is higher in PD patients while bodily pain is more tolerable in HD patients. HD patients had lower marital satisfaction than PD patients. In this regard, one can suggest that problems such as dependence on hemodialysis apparatus and frequent referral to hemodialysis centers, repeated catheterization over the week, and are the existence of some underlying problems associated with the lack of metabolic kidney activity due to anemia, blood pressure, and other life related limitations reduce marital satisfaction of patients receiving hemodialysis. This is in good agreement with the results of Zegarow et al. (2014), Wan et al. (2015), Oeyen et al. (2015), demonstrated that marital satisfaction of PD patients is higher than HD ones, Pertuza et al. (2014), Stanley et al. (2008), Sathvik et al. (2008), signifies that life satisfaction in PD patients is higher than their HD counterparts, and Vosughi and Movahed Pour (2009). Accordingly, when patients undergo hemodialysis, they spend their time and energy in the treatment center and cannot adequately attend to their children and marital relationships. In such circumstances, their satisfaction with marital life shrinks as a result of their failure to fulfill family responsibilities and meet usual expectations of their spouse and children. In other words, treatment outdoors and constant referral to treatment centers along with its

associated fatigue prevent HD patients from having the chance to deal with family affairs, all of which causing tension in marital relations and reducing marital satisfaction.

Discussion

Data analysis indicated that there is a significant difference between satisfaction of HD and PD patients with personality issues, communication, conflict resolution, leisure activities, sexual relationships, children and parenting, and religious orientation. Indeed, individuals receiving peritoneal dialysis expressed a greater contentment in these domains. However, no such variation was found in the satisfaction of the two groups of patients with their financial management as well as family and friends. These results are consistent with those reported by Mota et al. (2019), Zegarow et al., (2014), Oeyen et al. (2015), Stanley et al. (2008), and Vosughi and Movahed Pour (2009). Thus, patients with kidney failure who undergo hemodialysis tend to frequent hospitals and devote a lot of their energy to dialysis. Therefore, they can no longer handle home affairs efficiently and meet the expectations of their spouse. Hemodialysis may even trigger them to raise their expectations from the spouse and children to understand their situation. This can in turn lessen their satisfaction with marital relationships and aggravate their conflicts with the spouse at a situation when they are not able to spend a long time resolving their problems. It should also be noted that hemodialysis in the hospital and treatment centers restricts the leisure time which a patient might otherwise spend with the spouse or children. Kidney disease, on the other hand, reduces the level of satisfaction with sexual relationship between couples since affected people may not pay much attention to the [sexual] demands of their spouse.

The results of this research revealed that most patients were male and married, which matches the results of the study by Mahmoudi et al (2013). So it seems that men are more prone to kidney diseases than women that can be due to less observation of self-hygiene by men. Additionally, since kidney diseases are more pervasive among older people, it is more probable that the patient is married and it counts as an advantage because the spouse can be an effective care-taker and company for the patient and contribute to the treatment. Also, as in the study by Mokhtari et al (2003). the majority of patients had low levels

of education, so it seems that the kidney problems are more common among people with lower levels of literacy which could probably attributed to the difficulty of their jobs and the lower level of their health information; Another demographic finding of the present study is that most patients had a poor economic status, which is in line with the results of many studies such as Stavrianou and Pallikarakis (2007) and Petrovic et al. (2006), In this relation, it could be said that people from lower economical levels of the society are more prone to kidney problems because of difficult work conditions and/or malnutrition.

According to the results, there was no significant difference in marital satisfaction between men and women, suggesting that kidney failure affects the marital life of both genders almost equally. Furthermore, marital satisfaction varies significantly between employed and unemployed patients, such that the former are more satisfied with their marital life. This could be because employed individuals are more hopeful and consider themselves beneficial and effective.

Other results propose that the level of education, age, number of children, disease onset, and type of delivery do not exert a significant effect on marital satisfaction of dialysis patients. Thus, it can be inferred that individual characteristics do not greatly influence marital satisfaction of these patients, and kidney disease affect people of different ages and education levels almost equally. Based on the results, dialysis patients with diabetes and hypertension experience a lower marital satisfaction than those who are not affected by these two conditions. Therefore, it can be said that when patients with kidney failure undergo dialysis, their marital satisfaction will dwindle even further if they have diabetes and hypertension. Additionally, the results illustrate that the income of dialysis patients causes a significant impact on the level of marital satisfaction, so that the higher the income is, the greater the satisfaction with marital life will be. Hence, it may be concluded that financial pressures of dialysis patients are one of the most decisive variables in their marital satisfaction. Therefore, authorities and other caregivers should better support these individuals financially in order to mitigate their life problems.

As discussed in various sections of this study, in addition to family problems due to complications of the disease, most HD patients have numerous emotional and marital problems which can spill over family aspects of patients' life. In this regard, it is necessary to go beyond

providing purely physical treatment to promote health services in all areas. This [enlargement of the care services] requires planning and devoting special attention to issues such as mental health counseling, health education planning, patients' livelihood, and extending insurance coverage of these patients. Realizing these goals necessitates the extensive cooperation of all supervisory and support systems involved in the health system. It is only through a comprehensive and accurate planning that the chief mission of the country's health system - i.e., increasing the quantity along with the quality of life of citizens (WHO guidelines) - could be accomplished.

Considering the role and importance of the family as the main source of patients' social protection and support, it is recommended that formal programs and training be provided by the Welfare Organization and other related support institutions in order to strengthen the family institution and further appreciate the status of patients by familiarizing citizens and family members with dialysis patients' situation and identifying their needs, rights, and risk factors. Harnessing public opinion to increase people's understanding concerning the situation of kidney patients. Providing more extensive informational support for kidney patients by the government. Allocating special insurance coverages for kidney patients. Establishing rehabilitation centers for kidney patients. Increasing social support for hemodialysis patients by the government, so that this role is no longer confined to the family and relatives. Creating educational programs for kidney patients and their children by the state media, so that comprehensive care might be provided for these patients by taking various dimensions of social support into account. Improving and insuring health and medical services for kidney patients. Launching free counseling centers for patients to provide informational support.

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