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## CHAPTER 4

### FINDINGS AND DISCUSSION

This study used a descriptive correlational design to identify family support and quality of life, and to examine the relationship between family support and quality of life of hemodialysis patients. Sixty subjects were selected by purposive sampling. The statistical package for social science (SPSS) computer software was used for data analysis. The findings from this study and the discussion regarding the findings were presented in this chapter.

The findings from this study were organized into four sections according to the objectives: (1) demographic data, (2) quality of life, (3) family support, and (4) the relationship between family support and quality of life.

## Findings

Part I The demographic data of the subjects is presented in Table 1 and Table 2.

Table 1 Demographic characteristics of the subjects (N=60)

Characteristics		Frequency (N)	Percentage (%)
Sex	Male	39	65.0
	Female	21	35.0
Age (Yrs)			
	18-29	4	6.6
	30-39	12	20.0
	40-49	10	16.7
	50-59	16	26.7
	60-69	18	30.0
	Mean 49.58	S.D. 12.96	Range 18-69
Marital Status			
	Married	55	91.7
	Single	2	3.3
	Divorced	1	1.7
	Widowed	2	3.3
Educational level (Year)			
	No education	1	1.7
	Primary (6 Yrs)	13	21.7
	Junior(9 Yrs)	18	30.0
	Senior(12 yrs)	21	35.0
	College/Univ. (17yrs)	7	11.6
	Mean 9.12	S.D. 3.58	Range 0-17

Characteristics	Frequency (N)	Percentage (%)
<b>Occupation</b>		
Worker	25	41.7
Government service	22	36.7
Farmer	4	6.7
Teacher	3	5.0
House keeping	2	3.3
Business personnel	1	1.7
Health personnel	1	1.7
Others	2	3.3
<b>Family income (Yuan/person/month)</b>		
<250	7	11.7
251-500	33	55.0
501-800	16	26.7
>800	4	6.6
Mean 487.33	S.D. 189.11	Range 100-1000

Table 1 presents frequency, percentage, mean, standard deviation and range of the demographic characteristics of the 60 subjects. It shows that the subjects consisted of 39 males (65%) and 21 females (35%). The mean age of the subjects was 49.58 years, ranging from 18-69 years with a standard deviation of 12.96. The majority of the subjects were married (91.7%). The mean educational level of the subjects was 9.12 years, ranging from no

education to 17 years. Most of the subjects (53.4%) achieved education lower than senior high school level. The average income of the subjects was 487.33 yuan, ranging from 100 yuan to 1000 yuan. Twenty-five subjects (41.7%) were workers while 22 subjects (36.7%) were in government service.

Table 2 Demographic characteristics of subjects  
(N=60)

Characteristics	Frequency (N)	Percentage (%)
Duration of hemodialysis (year)		
1-3	50	83.3
4-6	9	15.0
7-9	0	0
>9	1	1.7
Mean 2.04	S.D. 1.81	Range <1-11
Numbers of hemodialysis (times/per two weeks)		
2	4	6.7
3	3	5.0
4	34	56.7
5	17	28.3
6	2	3.3
Mean 2.08	S.D. .42	Range 2-6
Number of family members (person)		
1-3	26	43.3
4-6	29	48.4
7-9	5	8.3
Mean 4.07	S.D. 1.57	Range 2-9
Helpful person from Family*		
Spouse	48	80.0
Child or children	21	35.0
Parents	7	11.7
Siblings	4	6.7
Mother	2	3.3
Close relatives	1	1.7

Characteristics	Frequency (N)	Percentage (%)
Means of medical payment		
Total reimbursed Or insurance	24	40.0
Partial reimbursed	24	40.0
Total self paid	12	20.0

\*One patient has more than one item

Table 2 presents frequency, percentage, mean, standard deviation and range of the demographic characteristics of the 60 subjects. It shows that the average duration of having hemodialysis was 2.04 years, ranging from less than one year (two months) to 11 years (132 months). An average time for receiving hemodialysis per week was 2.08, ranging from 2-6 times per two weeks. The number of family members ranged from 2 to 9 with a mean of 4.07 and S.D. of 1.57. The helpful person from the family was the spouse (80.0%), followed by children (35.0%) and parents (11.7%) respectively. Forty percent of the subjects were totally reimbursed or paid by insurance companies and 40 percent were partially reimbursed from the government, work agencies, and insurance companies. Twenty percent of the subjects had to pay all medical expenses themselves.

## Part II Quality of life of hemodialysis patients

To describe quality of life among the subjects with hemodialysis in this study, the data was assessed by MQLQ. The results from the statistical analysis are presented in Table 3 and 4. The mean, standard deviation, and average rating scores of total quality of life and the scores of subscales of MQLQ were calculated (See table 3 to table 4).

Table 3 Mean, Standard deviation, and Range of quality of life's scores

Category/subcategory	mean	S.D.	Range
Total MQLQ	3.16	.47	2.08-4.13
Life satisfaction	3.62	.71	2.00-5.00
Self-concept	3.10	.51	1.81-4.38
Health and functioning	2.97	.56	1.81-4.06
Socio-economic factors	3.08	.69	1.50-4.50

Table 3 displays the total scores of MQLQ and each subcategory of quality of life. The total scores of MQLQ ranged from 2.08 to 4.13 with mean score of 3.16 and standard deviation of .47. In each subcategory, life satisfaction had the highest mean score of 3.62 (with a range from 2.0 to 5.0 and S.D. of .71), followed by self-

concept with a mean score of 3.10 (with a range from 1.81 to 4.38, S.D. of .51), socio-economic factors had a mean score of 3.08, (with a range from 1.5 to 4.5, S.D. of .69), and health and functioning had a mean score of 2.97, (with a range from 1.81 to 4.06, S.D. of .56).

**Table 4** Scores of quality of life divided into level by mean of the group (N=60)

Level of quality Of life	Frequency (N)	Percentage (%)
Below mean	32	53.3
Above mean	28	46.7

Table 4 displays the frequency and percentage of hemodialysis patients. More than half of the subjects (53.3%) perceived that their quality of life was low (below mean). Twenty-eight subjects (46.7%) reported that their quality of life was high (above mean).



### Part III Family support of hemodialysis patients

To describe family support among the subjects with hemodialysis in this study, the data was assessed by MPSS-Fa Scale. The results from the statistical analysis are presented in Table 5 and 6.

#### Family support

Mean, standard deviation, and average rating score of family support was calculated. Table 5 to table 6 showed the findings related to family support of hemodialysis patients.

Table 5 Mean, Standard deviation, and Range of family support's scores (N=60)

Variable	Mean	S.D.	Range
Family Support	12.10	2.69	3-15

Table 5 describes that the mean score of family support of hemodialysis patients was 12.10 (S.D.=2.69) with a range of 3 to 15.

**Table 6** Scores of family support divided into level by mean of the group (N=60)

Level of family Support	Frequency (N)	Percentage (%)
Below mean	29	48.3
Above mean	31	51.7

From table 6, about half the subjects (51.7%) perceived that the amount of their family support was high (above mean). Twenty-nine subjects (48.3%) thought that their family support was low (below mean).

#### **Part IV Relationship between family support and quality of life among hemodialysis patients**

To determine the relationship between family support and quality of life of hemodialysis patients in this study, the Pearson's product-moment was performed and the results are shown in table 7.

Table 7 Relationships between family support and quality of life among hemodialysis patients (N=60)

Quality of life	family support (r)
Total quality of life	.4379**
Life satisfaction	.5016**
Self-conception	.3299*
Health and functioning	.3161*
Socio-economic factors	.2456

Note: \* P<.01      \*\* P<.001

Table 7 shows that there was moderate significant relationship between family support and total quality of life of hemodialysis patients ( $r=.4379$ ,  $p<.001$ ). There was significant and moderately positive relationship between life satisfaction, self-concept, health and functioning and family support. However, there was not a significant relationship between socio-economic factors and family support. This result supported the hypothesis that there was a positive relationship between family support and quality of life among hemodialysis patients.

## Discussion

The researcher will discuss the result of this study according to the objectives of this study.

## Demographic data

There were 60 hemodialysis patients in this study. The average age of the subjects was 49.58 years old. This is similar to other studies in hemodialysis (Wolcott , Nissenson, & Landsverk, 1988; Evans, 1985). About 43.4 percent of the subjects were less than fifty years old. This could be considered a very busy period in a person's life with individuals having multiple roles of high responsibility and a heavy work load due to taking care of older generations and the younger ones at the same time. Most of the subjects (91.7%) were married. This conforms fit with traditionally and culturally defined family types and family relationships in China. The average educational level of the subjects was 9.12 years and most of the subjects (53.4%) received less than or equal to 9 years of education. Most of subjects were workers (41.7%). This related to a monthly family income of most subjects (66.7%) of less than 500 yuan. Only 40 percent of subjects received total reimbursement of medical fees or had medical insurance, while 20 percent of the subjects had to pay for their

treatment expenses by themselves. Medical expenses had become a problem to these patients because they needed to pay for long-term and expensive medical fees, particularly hemodialysis treatment which costs about 300 yuan per time (Wang, et al., 1995). For the subjects, the helpful person from their families were as following, spouses (80%), child or children (35%), parents (11.7%), and siblings (6.7%). This indicates that spouses were the most supportive persons for these hemodialysis patients.

#### **Quality of life of hemodialysis patients**

Results from this study showed that more than half of the subjects (53.4%, Table 4) had a low level of quality of life. The total mean score of quality of life was 3.16 with life satisfaction domain having the highest mean score (3.62, S.D=.71) and health and functioning domain having the lowest mean score (2.97, S.D=.56) (see Table 3). This was consistent with some previous studies (Bihl, Ferrans, & Powers, 1988; Ferrans & Powers, 1993) of dialysis patients in which health and functioning had the lowest mean score. This indicated that patients undergoing hemodialysis experience many physical, social and psychological changes which could result in a decrease in the quality of life. Even though they had received hemodialysis treatment, they

still developed some systemic complications during and after hemodialysis which resulted in a limitation of activity and decrease in social life (LeMone & Burke, 1996).

The mean score of total quality of life in this study compared with the other studies is seem to be lower. The mean score of quality of life reported in Zhu (1997) in non-insulin dependent diabetes mellitus patients was 3.76 (S.D=.46). This might be explained by the fact that hemodialysis patients had to face more physical, psychological, and social problems than diabetes patients. Hampers and Schupak (1967, cited in Flaherty & O'Brien, 1992) said that there is perhaps no situation so stressful to patients as chronic hemodialysis for patients who had CRF, as major adjustments in thinking and living must be made. So, different diseases might cause different consequences resulting in a difference in the quality of life.

Most of the subjects reported their life satisfaction as the highest mean score (3.62, S.D=.71). This result was consistent with the result of a previous study by Zhu (1997), but the mean score was lower than that of Zhu's study (mean=4.30, S.D=.66). This can be explained by the fact that even though the subjects experienced long-term illness and had multiple losses, such as loss of

health, loss of economic stability and financial independence and loss of freedom concerning diet and fluid intake which could make them feel uncertain about their own future, support from family members could help them overcome these obstacles in their life. From Table 8 (Appendix c), we see that family care plays a major role in strengthening subjects' life satisfaction, such as the receiving family care after being sick, getting love and care from the family, having a warm family, and joining the family in some activities were the highest mean scores (4.55, 4.50, 4.38, 4.35). This could be explained by the fact that Chinese people are affected by the traditional Chinese culture in which family members should support person when he/she becomes ill and siblings or relatives support each other. In addition, family relationships are tight in China. In this study, all of the subjects had family members to live with and 91.7 percent of the subjects were married.

In the self-concept domain, the mean score was lower (3.10, S.D=.51) compared to other studies (Upalabute, 1994; Zhu, 1997) in which leukemic patients and diabetes mellitus patients reported their self-concept of quality of life at a good level. Although studies had been conducted in similar chronically ill populations, there was a difference in

health problems of the subjects in each study. Being satisfied with appearance got the lowest mean score (3.03, Table 8, Appendix C). The reasons for these results might be as following. Hemodialysis patients who had CRF often had sallow or brownish skin, edematous faces due to anemia and damaged nephrons (Phipps, Cassmeyer, Sands, & Lehman, 1995). This could affect patients' satisfaction with their physical appearance, and furthermore impair their body image, and ultimately lead to low self-esteem. Feeling irritated since I have been treated with hemodialysis got a low mean score (2.68 Table 8, Appendix c). Hemodialysis patients commonly experience a wide range of disorders. Almost all dialysis facilities offer dialysis treatments during the daytime only, making it difficult for hemodialysis patients to maintain a normal working life. Most patients are not rehabilitated except those who have had successful renal transplants (Kutner & Cardenas, 1981).

Within self-concept, the item being important to their family got the highest mean score (4.57, Table 8, Appendix C). This can be explained by a few reasons. Most of the patients (65%) were men. In China, most men are the householders who are leaders of their family. About 63.4 percent were aged between 30 and 59 years. This could be considered a period of high responsibility and heavy work



load with regards to family life, as they are the major means of economic resource for the family income. Subjects reported the lowest mean score in the area of being a religious person and feeling valuable at work although they were ill (1.72, 2.20; Table 8, Appendix C). This may be because the majority of Chinese people do not hold any strong religious view points. Therefore, many subjects said that they prayed to Buddi and Gods in the beginning of the disease and that this proved unuseful. As for feeling valuable at work, this may be explained in that most subjects could not work because of poor health and medical regimen.

The domain of health and functioning had the lowest mean score (2.97, S.D=.56; Table 3). This could be explained by the fact that hemodialysis patients often had to restrict their participation in many activities or give them up entirely because of poor health and medical regimen. Campbell, Converse and Rodgers (1976) found that poor health had the greatest impact on quality of life when it prevented people from doing what they wanted to do. ESRD and its treatment cause significant interference with participation in valued activities and interests for hemodialysis patients (Devins, et al., 1990, cited in Ferrans & Powers, 1993). The item of taking medications as ordered and doing their daily

activities on their own had the highest mean score (4.37, 4.28, Table 8, Appendix C). This could be explained by the fact that most of the subjects (76.6%, Table 1) had been educated at higher than primary school levels. This could lead them to follow the treatment regimen, which plays a key role in preventing the complications associated with CRF. As for doing their daily activities on their own, it is found that most of the subjects (70%, Table 1) had no other additional chronic illness, so they were able to achieve daily activities such as having meals, bath taking and going to the toilet on their own. However, the items of sexual activities and working or studying had the lowest mean score (1.47, 2.02, Table 8, Appendix C). The result was consistent with a study of Berkman, Katz, and Weissman (1982, cited in Ferrans & Powers, 1993) who reported that 50 percent of dialysis patients described their sex life as inadequate or poor, and 81 percent said that sex was unimportant to them. Sexual function has been found to decrease after starting dialysis. In addition, an expression of one's sexual life in China is not acceptable and sexual issues are very sensitive. Many Chinese people do not discuss or even express his/her own sexual feelings to the others. As for working or studying, the finding was congruent with other studies. In the study by Lok (1996) about quality of life

among dialysis patients, only 21 percent of patients reported that they were able to do normal tasks. The reason was poor health and the medical regimen of hemodialysis patients.

Inconsistent with Zhu's (1997) study, the results in this study showed that health and functioning had the high score (3.87). This may be because different diseases have different health problems. Hemodialysis patient who have CRF found that physical functioning was of prime importance in patients' assessments of their global quality of life. Constraints on normal activity of daily living can reduce the enjoyment of close friendships, contentment with the family, performance and satisfaction with work, and satisfaction with life in general (Evans et al., 1985).

In the area of socio-economic dimension, the mean score was 3.08 (S.D=.96, Table 3). According to the sample characteristics, the monthly family income for 66.7 percent of subjects was less than 500 yuan. Only 40 percent of subjects received total reimbursement or medical insurance. Many subjects worried about the medical fee. Hemodialysis is an expensive health care regimen costing between \$15,000 and \$35,000 a year per patient (Levy, 1981). In China, hemodialysis regimen costs about 30,000 to 50,000 a year per patient. The financial burden of the therapy is imposed on

patients and their family. In Ferrans and Powers (1993) study, financial aspects of life were found to have a negative impact on quality of life. In patients' comments, lack of money to provide for basic needs caused severe suffering. Income showed a statistically significant relationship in respect to quality of life (Morgan, 1990). Wang, et al. (1995) found that patients receiving reimbursement had a higher quality of life than those who had to pay for the medical fee by themselves. Physical changes and social changes from the disease interfered with their ability to work. However, this did not make them feel worried about losing their jobs (mean=4.22, Table 8, Appendix C) which may be related to the policy in China that people can not be fired because of illness even if they are workers.

#### **Family support of hemodialysis patients**

The result of the study indicated that about half of the subjects (51.7%, Table 6) perceived a high level of family support (mean score 12.10, Table 5) with the possible score ranging from 0 to 15. This result was in accordance with the result of a study for 61 breast cancer patients receiving combined therapy by Zhang (1997) in which the mean score of family support as measured by the same instrument

was 11.03 (S.D=4.08). The comparable mean scores in these groups of patients may be because of the similarity of the subjects in terms of the chronic illness and having the same family structure in Chinese culture.

According to the sample characteristics, in which the majority of subjects (91.7%) were married, the most helpful persons in their families were their spouses (80%). The finding of this study is consistent with the other study on social support of hemodialysis (Gurklis & Menke, 1995) whose subjects reported spouses as the most supportive person. It was documented that the spouse was the most important group to provide social support to the patient (Primomo, Yates, & Woods, 1990; Sexton & Munro, 1988). Friedman (1993) proposed a hierarchy of social supportive relationships in old women with heart disease. He found that within families, spouse and children were chosen more than distant relatives. Spouses play a special role in providing support because they are mostly the closest kin of the adult patients and are involved in gratifying patients' social and emotional needs (Chaitchik, Kreitler, Rapoport, & Algor, 1992). On the other hand, the family structure in China has changed from the extended family to the nuclear family due to the developing process of industrialization, economic growth, and especially from family planning policy.

Furthermore, it may be related to Chinese culture in which there are very intimate relationships among family members, and when a person meets some problems, such as suffering from a disease, his or her family members will try their best to provide him or her with a variety of support to make him or her feel warm and confident to fight against the disease. Even though the family structure in China has changed, individuals are still bound by the need to place family interest above their own as stated in the past by Chow (1983). Another reason might be due to the disease and its medical regimen which often results in permanent loss of functions and roles. Many tasks can no longer be performed by the patients themselves, so families will perform a role as care provider for extended periods of the patients' lives, such as personal care, monitoring symptoms, carrying out regimens, shopping and even transportation.

Finally, it may be because most of the subjects of this study were men (65%). In China, most men are householders who always receive more support from their family members. It could mean that wives tend to perform better as care providers. Some of the subjects said that they were leaders of their family even though they had a chronic disease.

Within the domain of family support, the item of

receiving moral support from the family got the highest mean score (0.95, Table 9, Appendix D). This could be explained by the fact that in Chinese traditional and cultural beliefs, it is the obligation of the spouse and children to take care of their husbands/wives or parents during an illness. However, subjects reported the lowest mean score in the area of having a deep sharing relationship with a number of members of their families (mean .47, Table 9, Appendix D). This can be explained by a few reasons. The disease progression of CRF may cause many changes in an individual's personality and situation. Patients could have some problems with mobility, social interaction, and recreation. In addition, they have to stay in the hospital for hemodialysis treatment one to three times per week or every day. Limitations of their physical mobility and social interactions could make them feel isolated from other family members.

#### **Relationships between family support and quality of life among hemodialysis patients**

In this study the hypothesis that there was a positive relationship between family support and quality of life among hemodialysis patients was tested. The finding from this study showed that there was a moderately positive

relationship between family support and total quality of life ( $r=.4379$ ,  $p<.001$ ). It indicated that the patients perceived a high level of family support, which could make them perceive a high level of quality of life. Moreover, family support was moderately and positively associated with life satisfaction ( $r=.5016$ ,  $p<.001$ ), self-concept ( $r=.3299$ ,  $p<.01$ ), and health and functioning ( $r=.3161$ ,  $p<.01$ ). The finding of this study was consistent with the result from previous studies (Dimond, 1979; Murphy, 1982, cited in Ferrans & Powers, 1990) which showed that family life had a profound impact on the patient's adjustment. Family life was also significantly correlated with the quality of life of dialysis patients in other studies. Burckhardt, Woods, Schultz, & Ziebarth (1989) identified that the family relationship was an important factor for quality of life of 227 adults with chronic disease. In the study of 125 chronically ill women, Primomo, Yates, and Woods (1990) found that the subjects who received more support from partners and family felt less depressed, and had higher marital qualities than those who received less support. Another study by Christensen, Wiebe, Smith, and Turner (1994) showed that in hemodialysis patients, estimated 5-year mortality rates among patients with were approximately 3 times higher than the estimated mortality for patients



with high family support.

Considering of the conceptual framework of this study, the concept of quality of life derived from Zhan's conceptual model of quality of life (self perception of life satisfaction, self-concept, health and functioning, and socio-economic factors). Family is considered as a natural support system which could be considered as one major environmental factor that supports family members in order for them to deal with threats (Procidano & Heller, 1983). Family support could be considered as one aspect of the social environment, which could improve the patients' quality of life. The findings of this study showed a moderately positive relationship between family support and quality of life among hemodialysis patients. Family support played an important role in improving quality of life for this study. Therefore, the result of this study supported the hypothesis and was consistent with the conceptual framework.