5-1-2005

Perceived Social Support among Chinese American Hemodialysis Patients

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DOI: https://doi.org/10.31979/etd.587d-6g4s
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Perceived Social Support

Running Head: PERCEIVED SOCIAL SUPPORT AMONG CHINESE AMERICAN

Perceived Social Support among
Chinese American Hemodialysis Patients

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Perceived Social Support among Chinese American Hemodialysis Patients

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Abstract

Social support is linked to improved health outcomes both in Western and Asian societies and is a vital factor in a patient’s adjustment to end-stage renal disease and its treatment regimen. This study explored perceived social support among 46 Chinese American hemodialysis patients in San Francisco’s Chinatown using the Norbeck Social Support Questionnaire plus open-ended questions. Findings unexpectedly revealed low levels of perceived social support and lack of tangible support especially in elder patients. We can no longer assume that traditional family cultural values are providing adequate social support for this population.
Culture is often referred to as the behaviors, attributes, and traditions shared by a large population and transmitted from one generation to the next. Culture becomes the eyes through which we see other people and our mind through which we perceive the meaning of health and illness. Cultural difference is also an individual characteristic that shapes our social support system (Norbeck, 1982). In Chinese culture, the family is the blueprint of its interdependent worldview (Tung, 2000). One flies away into the world but always looks back, knowing that family formation is based on mutual support, loyalty, and emphasis on interpersonal harmony. The San Francisco Bay Area is rich with diverse cultures and comprises a very large Chinese immigrant population. The process of resettlement can be a stressful event for immigrants, especially for elders, when they face the values, customs, and lifestyle of a new country, as well as the Westernization of their next generation. Living in a place where East meets West, Chinese immigrants wonder, will their cultural values and beliefs be sustained? Or compromised? Will the traditional Chinese social support system remain as strong when one faces illness? We wanted to better understand the social support context of Chinese American hemodialysis patients in San Francisco’s Chinatown.

End-stage Renal Disease

End-stage renal disease (ESRD) is a chronic illness that poses many challenges for people affected by it. ESRD currently affects more than 400,000 people in the United States (United States Renal Data System [USRDS], 2004). Although specific statistics of Chinese Americans with ESRD are unknown, there are over 15,000 Asian ESRD patients nationwide and a majority of them in Northern California reside in the San Francisco Bay Area (TransPacific Renal Network, 2003; USRDS, 2004). ESRD is the ninth leading cause of death in the United States (Arias, Anderson, Kung, Murphy, & Kochanek, 2003). The projected remaining life
expectancy for ESRD patients is only one third to one sixth of those in the general population (USRDS, 2004). Dialysis or transplant is necessary for survival in ESRD patients. Due to the shortage of organ donors, renal dialysis remains the common therapy for ESRD patients with 65% being treated with hemodialysis (USRDS, 2004).

Clinical manifestations of ESRD affect multiple body systems causing co-morbidities of cardiovascular disease, endocrine disorder, anemia, bone disorders, and infectious diseases (Nissenson, 1998; USRDS, 2004). Other common complications related to uremic syndrome and dialysis treatment are hypotension, fatigue, cramps, sexual dysfunction, and insomnia. In addition to physical complications, ESRD patients often experience unemployment, financial strain, and potential changes in marital, familial, and societal contexts (Kimmel, 2001; Molzahn, 1998). Psychosocial stressors, including depression, sense of powerlessness, and intrusiveness can deliver as significant an impact as the physiological ones. The stress of attending dialysis treatments, missing other activities, and dealing with transportation problems can easily escalate to create more psychosocial tensions.

Furthermore, hemodialysis patients must follow a multifaceted and restrictive therapy regimen. They undergo time-consuming hemodialysis treatments three times weekly and each session may last up to four hours. Unfortunately, hemodialysis treatments compensate only partially for their kidney failure. Other lifestyle modifications, including fluid intake restriction, renal dietary control, and medication regimens, are also critical to maintaining their wellness. Failure to comply may lead to osteodystrophy, pulmonary edema, congestive heart failure, and even death (Roberts, 1998). Consequently, hemodialysis patients are continually faced with major life adjustments in their effort to decrease morbidity and maintain their chances of survival.
The research literature suggests that health outcomes could be improved by using social support assessment data to plan and modify treatment processes. However, there is a limitation in our knowledge about the social support context among this growing and unique Chinese American hemodialysis population. Understanding social support in this population and how it is related to culture may generate new initiatives to fortify the support systems of these patients, thereby strengthening their ability to cope with their illness and to improve their quality of life.

Conceptual Framework

Social support is a multidimensional concept with diverse definitions and constructs. Its components include functions and structures. The functions of social support range from emotional and informational to affirmative and tangible (Cobb, 1976; Cohen & Wills, 1985; Sherbourne & Stewart, 1991). The structure of social support consists of network from family members, friends, coworkers, health care providers, and communities (Lindsey, 1997).

The theoretical framework of this study is based on Robert Kahn’s conceptual definitions of social support and Jane Norbeck’s theoretical assumptions of social support. Kahn (1979) conceptualized social support as personal interactions in which positive affect, affirmation, and symbolic or material aid are exchanged. Kahn and Antonucci (1981) defined social network as a convoy, consisting of a group of people on which a person relies for support. They also suggested that this convoy changes throughout one’s life span and the network properties can be measured.

Norbeck’s (1982) theoretical assumptions of social support build on Kahn’s concepts. Her assumptions suggest that people need supportive relationships throughout their life to manage role changes and to cope with life stressors. Supportive relationships are defined as healthy, not pathological, and reciprocal in nature. The composition of networks or convoys
changes through time and their properties include duration of each relationship, frequency of contact, and capacity and quality of support exchanged. Most importantly, the analysis of support adequacy must be based on individual and situational characteristics, such as gender, cultural differences, living conditions, and number of stressors affecting the person.

Social Support Among Asians With ESRD

Numerous studies have reported the positive impact of social support on different health outcomes, such as decreasing mortality rate (Christensen, Wiebe, Smith, & Turner, 1994; Kimmel et al., 1998; Parkerson & Gutman, 2000), lowering depression (Guzman & Nicassio, 2003; Symister & Friend, 2003), better adherence with attending hemodialysis sessions and diet restrictions (Boyer, Friend, Chlouverakis, & Kaloyanides, 1990; Christensen et al., 1992; Cummings, Becker, Kirsch, & Levin, 1982; Harris, Luft, Rudy, & Tierney, 1995; Kimmel et al., 1995; Kovac, Patel, Peterson, & Kimmel, 2002), and improving quality of life (Patel, Shah, Peterson, & Kimmel, 2002; Tobin, Gidron, Jean, Granovsky, & Schnieder, 2003). This important research data on social support has been gathered primarily on Western populations. Nevertheless, a few studies conducted among Asian hemodialysis populations in Japan, Hong Kong, Taiwan, and China reveal how social support might impact health outcomes and how sociocultural factors help to shape the support context.

The traditional concept that spouse or partners and family members being the key social support providers remained true in these multi-center studies on different Asian populations (Lin, Ko, Tsai, & Chen, 1995; Luk, 2001, 2002; Oka & Chaboyer, 1999; Pang, Ip, & Chang, 2001; Zhang & Liu, 2002). This type of family support was found to be positively correlated with quality of life, specifically satisfaction with life, self-concept, and functional status, and behavioral compliance with treatment adherence (Lin et al., 1995; Luk, 2001; Pang et al., 2001;
Health care providers also received significant recognition in providing information, care, and support to patients (Luk, 2001, 2002; Oak & Chaboyer, 1999); the experience of sharing in patient support groups was important as well (Luk, 2002). Despite an apparent shift from the traditional extended family structure to a smaller nuclear structure in China due to Westernization and especially to the policy of only one child per family, the traditional values of filial piety continue to influence the maintenance of close family ties and many family members would still sacrifice anything to care for their ailing members (Zhang & Liu, 2002).

Nonetheless, another side of the social support picture in the home care experience of caregivers revealed that the tightness of the family bonding among Chinese may place great pressure on the caregivers and tension among patient-caregiver relationship (Luk, 2002). Due to the restrictive living space and the political climate change leading to a huge wave of overseas emigration, the traditional Chinese extended family structure has been changed to a smaller nuclear structure with older generations left behind and living alone. This reduced family size and diminished kinship network put most caregivers in both a physically and emotionally strained situation. The expectation to look after the patients and the obligation to take on the patients’ suffering in Chinese culture may cause caregivers to burn out.

Moreover, Indo-Asian ESRD patients were found to experience lower quality of life and a worse index of social deprivation than Caucasian ESRD patients (Bakewell, Higgins, & Edmunds, 2001, 2002). These differences could be related to a mistaken assumption that Asian patients are frequently afforded a strong support system by their extended families, leading to inadequate services provided to this patient population.

Given the conflicting literature, an investigation of perceived social support among
Chinese American hemodialysis patients could be very helpful. We expected that living in a close knit Chinese community, such as San Francisco's Chinatown, might provide some cushion of social support.

Methodology

Permission to conduct the study was obtained from the participating hemodialysis center in San Francisco's Chinatown and the sponsoring university's Human Subjects Institutional Review Board. Forty-six patients were recruited. Participants were 18 years of age or older, Chinese American, and had the ability to communicate in either Chinese or English. Patients with severe physical or mental impairment were excluded.

A questionnaire was designed to obtain demographic information including gender, age, country of origin, age at immigration, length of time on hemodialysis, educational level, marital status, household members, work status, and perceived family income. We wanted to explore potential relationships of the demographic data with support functions.

Social support was measured by the Norbeck Social Support Questionnaire (NSSQ), a tool built on Kahn's conceptual definitions of social support (Norbeck, Lindsey, & Carrieri, 1981). In this questionnaire, the participants are asked to list persons who are considered to be their social support network members and to answer ten questions on each network member. Categories of network members are: spouse or partner, family members or relatives, friends, work or school associates, neighbors, healthcare providers, counselor or therapist, minister/priest/rabbi, and others such as God, pets, or other patients. Total Functional score addresses functions of emotional support (affect and affirmation) and tangible support (aid). The Total Network score measures the network size, duration of relationships, and frequency of contact. The Total Loss score assesses the numbers of lost network members in the past year and
quantity of lost support. The participant’s ratings, based on a five-point rating scale for each network member, were totaled to determine the score for each question.

Reliability and validity of NSSQ have been previously established (Norbeck, Lindsey, & Carrieri, 1981, 1983). NSSQ successfully showed high test-retest stability and internal consistency. High predictive validity, moderate concurrent and construct validity were demonstrated. A Chinese version of NSSQ was used, in which translation and back-translation (Cronbach’s α = 0.98) were conducted (Chan, Hon, Chien, & Lopez, 2004).

Data was collected using face-to-face interviews with each participant during hemodialysis sessions. This method increased patient participation, especially for those who were vision impaired and those who were illiterate but were able to speak and understand either English or Chinese. Participants were interviewed to complete the demographic questionnaire, the Norbeck Social Support Questionnaire, and the following three open-ended questions: What is your most challenging issue about having ESRD and undergoing hemodialysis? How does your social support system help you with this issue? What else do you wish your social support system to help you with? Descriptive statistics, Chi-square tests, and Pearson’s product-moment correlation test were used for the quantitative data. Content analysis was performed for the qualitative data based on the open-ended questions, and important statements were extracted and grouped into themes.

Findings

Demographic Characteristics

Table 1 summarizes the demographic characteristics of the participants. Their average age and age at immigration were 72.6 and 48.6 years old respectively and their dialect of preference was Cantonese, suggesting that these subjects had resided in the United States for an
average of 25 years, and were more likely to be the older immigrants from Southeast China and Hong Kong. Most had limited English skills, and all but one preferred and used the Chinese version of NSSQ.

Social Networks and Demographic Correlations

Table 2 and 3 describe the sources of network members and the support functions. Participants had known their network members for more than 5 years and had contacts with them ranging from daily to weekly. Only four subjects reported loss of network members in the past year; half rated the amount of lost support as zero. Four subjects reported having no network members at all. These scores are compared with norms based on institutionalized elderly in a Southwestern U.S. city and with patients having adenomatous colon polyps in Table 4.

The correlations among the demographic variables, number of network members, and support functions indicated that participants' age was positively correlated with age at immigration ($r = 0.555, P < 0.01$) and negatively correlated with perceived tangible support ($r = -0.313, P < 0.05$). All other correlations did not achieve statistical significance, however the qualitative findings provide important insights into the personal experience of living with ESRD.

What are your challenging issues with ESRD and hemodialysis?

Life style changes. Participants acknowledged the impact of hemodialysis on their lives. Time spent on hemodialysis treatments, transportation to and from the dialysis center, and interventions for problems on vascular accesses greatly limited their ability to perform daily activities or to continue their previously active social lives. Younger patients experienced job losses because of treatment times and restrictions in physical activity associated with vascular arm accesses.

ESRD and hemodialysis restricted family and cultural connections by limiting travel:
they could no longer travel to China to visit extended families, because there were no dialysis centers in the rural areas and they could not afford to pay out-of-pocket for overseas dialysis treatments; they could only go for a weekend vacation - otherwise treatments would need to be arranged at their vacation destination.

Symptoms related to hemodialysis and ESRD. Pain and discomfort seriously affected participants' lives. They described leg cramps during treatment as the worst pain one could imagine. Other discomfort included pain associated with needle cannulation at the peripheral vascular access site, dizziness due to hypotension, chest pain, nausea and vomiting, routine fatigue after treatment, and even passing out during dialysis. Some elders felt so weak after hemodialysis that climbing 3 flights of stairs upon returning home had become an incapacitating challenge. Others complained of chronically itchy skin, insomnia, poor appetite, swelling in the extremities, and anemia which they attributed to frequent blood draws at the dialysis center.

Financial strain. Medicare's ESRD program shoulders most of the medical expense including the hemodialysis treatment and medications given during treatment. Nevertheless, most patients reported having little or no savings. They relied solely on the limited government compensation, and were still responsible for part of the expense of treatment and prescription medications, and these expenses became prohibitive at times. One participant acknowledged that he sometimes had to skip taking prescribed medications because he had no money left after paying for his basic living expenses.

Denial of difficulties. Some patients denied the existence of any challenging or difficult issues related to ESRD or hemodialysis. They explained that they were "used to it" and they could still "manage".
How does your social support system help you with these issues?

Positive role of support network. Some participants made positive comments about their relationship with spouses or partners and other family members. Their sons or daughters provided transportation and spouses accompanied patients during hemodialysis treatment. Some family members massaged patients' legs when they cramped; others helped to hold pressure on the needle sites until they stopped bleeding after treatment when needles were removed from peripheral vascular access. Much of the familial support received was associated with daily living and household chores including cooking, laundry, grocery, and bathing. A few reported that their adult children provided some financial and housing support for them. These caring adult children often visited their sick parents and offered emotional support.

A few others expressed gratitude for physicians, nurses, social worker, and patient care technicians. Specific examples of their tangible support were given: providing immediate symptomatic interventions for hypotension and leg cramps during hemodialysis treatment; arranging home health aide services and county transportation to and from dialysis center; and providing informational support regarding the disease, treatment process, and renal diet.

Two participants discussed the importance of their Buddhist spiritual roots as influencing how they viewed their situation. They did not attend any formal religious gatherings due to time conflict with treatment and lack of transportation. Instead, they focused on praying and studying the texts and teachings of Buddhism. This changed their perspectives on their chronic illnesses, and prepared them in the sense that they understood there was no running away from getting older and sicker. They stated they had become more positive in attitude and more capable of accepting reality.

Negative role of support network. A few participants expressed difficulty dealing with
certain uncaring or unhelpful staff members at the dialysis center. They sometimes felt they were not cared for properly and were angry. Half of the participants reported that their social support system could not help them to relieve the stressors. They stated that their spouses or partners, siblings, and friends were too old to provide any support and their adult children were too busy to provide assistance.

**What Other Support Do You Wish For?**

*Tangible support.* Many participants desired more financial support from the government. They verbalized frankly that the few hundred to a thousand dollars received every month from social security and supplemental security income barely covered their daily needs and the ever increasing medical expense. Younger patients wished for assistance to improve their English skills in order to improve their social and working abilities. Those who were eligible for renal transplant hoped that the waiting process would be shorter or any of their friends or families would be willing to be a live donor. Older patients longed for more support for their physical needs, such as longer hours from their daily home health aid to perform more house chores, moving to an apartment with an elevator, or having a bigger living space.

*Emotional support.* For the more elderly patients and those living alone, seeing their family members more frequently, their children and grandchildren in particular, was their ultimate hope. One patient wept when recounting his difficult immigrant life, having been abandoned by his wife and raising his three children all by himself. He commented that his adult children did not care for him now and he felt deserted again. Other patients dreamed of traveling back to their motherland to visit their overseas extended family members whom they missed.

*No wishes for more support.* Interestingly, many participants were unable to think what else they might like their support system to provide. Patients with positive attitudes expressed
satisfaction with the support they currently had. They stated that life is simple; they are still quite independent, able to eat, and ambulate. They do fear losing independence in the future, but they do not require and would not ask for extra support at this moment yet. Other patients stated they did not want their children to worry about them.

Those who appeared less optimistic did not think other people could help much and they acknowledged their reluctance in requesting more support. They expressed that other people also have their own very busy lives, and they perceived themselves being a burden and did not wish to trouble others. They referred to this request as “begging”. They reported that it is easier to deal with the situation by themselves if they could still manage than to ask for assistance from others.

Discussion

All but one of the participants in our study in this San Francisco’s Chinatown dialysis center were first generation immigrants; most were of advanced age and reported limited social support. Greater than 80% of these subjects were older than age 61 and almost a quarter of them were in their 80’s. When compared with the NSSQ scores from samples of institutionalized elderly and elders who had adenomatous colon polyps (Murphy, Prewitt, Bote, West, & Iber, 2001; Nelson, 1989), both the total functional and total network supports of our sample were significantly lower. This remarkably inadequate social support among the senior Chinese American hemodialysis patients was surprising.

When we began this study, we anticipated that adequate social support might be found due to a general cultural assumption that the close kinship in extended Chinese families would provide for their elderly and sick members. Such expectations and misconceptions may contribute to the inadequate external social support provided for this population. Immigration
Perceived Social Support

Permanently alters established cultural support links. Many of these first-generation Chinese immigrants left behind their relatives and even some of their adult children in their country of origin, so support from extended family members was less accessible. Additionally, the concept of living with extended families is diminishing in the new world they now call home, resulting in decreased network size and kinship. This change in family dynamics and the hardship of immigrant life reduce the adequacy of social support.

The demographic correlations with social support indicated that older subjects perceived significantly less tangible support. The physiological & psychosocial demands from ESRD and hemodialysis treatment further escalate the already increased physical and tangible needs from aging and therefore availability of social support may be easily exhausted. Another factor was that Almost one third of the subjects were widowed and lived alone, another one third lived with their spouses or partners only. Some of the spouses or partners and friends in similarly advanced ages were too frail to provide any tangible support. Although results showed that emotional support was not associated with age, this does not mean that emotional support is less important for this population, especially when qualitative data clearly revealed subjects’ desire for more emotional support.

Not surprisingly, spouses or partners and family members, including siblings, adult children and grandchildren, and close relatives are the two most significant support network members for the studied sample. Filial piety and respect, based on the teachings of Confucius, are deeply rooted in the Chinese cultural value system (Sung, 2001). Traditionally, family members are under the influence of this value system and are obliged to look after their sick family members. They are valued as being in the inner circles 自己人, while other people from the outer circles 外人 may not understand their background and their true inner feelings (Tung,
Because of this view of devotion to the family, only a few of the elderly subjects lived in nursing facilities; institutionalization is usually considered to be a last resort and may be perceived as being disgraceful to both the families and the patients (Luk, 2002).

Interestingly however, some of the subjects did not list their family members with whom they lived as their support network members. They attributed this to the fragility of their spouses or partners, and the busy lives and changing family values of their adult children. Miller (1994) asserts that in this traditional culture, the duty-based morality act of giving care to needy family members is not a choice but an obligation. This is in contrast to the individualism of Western culture, in which the responsibility of taking care of an ill relative is not an automatic obligation but a negotiated commitment. Having been acculturated into the Western world and holding this Western view, these patients’ children might feel pressured by traditional customs and see this non-negotiable duty as a burden. Earlier studies have confirmed that some patients’ partners and family caregivers reported negative impact from the patients’ ESRD on their own lives (Luk, 2002; White & Grenyer, 1999). In addition, Asian families may also view chronic disease as more of a stigma and hence some patients may have developed a negative or pathological relationship with their family members (Bakewell, Higgins, & Edmunds, 2001). The low social support scores from the current study may indicate that these family members have their own limitations and are unable to fulfill the emotional and tangible needs of the ESRD patients. This further underscores the importance of providing family support services to strengthen constructive interactions and to resolve conflicts or tensions between patients and their families.

On one hand, domestic violence and patient abuse should be evaluated; on the other hand, family members who serve as the primary caregivers should be also assessed for wellness and support so that they can be both mentally and physically prepared to performing such responsibilities.
Friends are ranked third among the sources of network members following family members. This can be explained by a Chinese saying of “when at home, one depends on one’s parents; when away from home, one depends on friends” (Tung, 2000, p. 7). However, unlike younger patients, most elderly patients expressed that most of their friends were as old as they were. These friends might provide some emotional support but tangible support was usually less available from them. Health care providers ranked next after friends as support network members. According to the interviews, patients valued physicians, nurses, and patient care technicians greatly who offered tangible and informational supports. Some patients, however, expressed dissatisfaction with their medical staff whom they perceived as not caring enough or not attentive to their needs, therefore causing more frustration in their lives. This suggests that health care providers need to reflect on their own practice, and be more vigilant and sensitive in their methods, process, and attitudes when providing emotional, tangible, and informational support to their patients. Supervision of the ancillary staff should also be thoughtfully conducted to insure the quality of care delivered.

The physical symptoms and complications from ESRD and hemodialysis treatment, the financial burden, and the patients’ desire for more tangible support are understandable. Regular home visits using a combination of nurses and health aides are invaluable to patients and families. The health aide provides physical care and company, and performs daily household chores, while nurse visits can reinforce dietary and medication counseling, assess patients’ physical condition, and offer educational and emotional support (Luk, 2002). For younger patients, patient support groups can be a resource to share experiences and socialize. For patients who report problems with work, more accommodation is needed to balance work with the demands of treatment and other commitments. Sufficient domestic facilities and better
perceived social support

housing should be arranged for those with urgent needs. Language barriers should always be examined and bilingual staff and translators should be made available, especially in areas where ethnic populations are in the minority. Cultural competency training for health care providers is also needed to insure effective communication with immigrant patients.

Denying the existence of any difficulties facing ESRD and declining more support reported by quite a few patients were unexpected. These patients may have the tendency to cope with their lives and illnesses in ways that reflect resignation, or a belief that fate cannot be changed (Loo, 1998). They may also have lowered their expectations of their adult children, realizing that Confucius’ filial piety requiring respect and commitment from younger generations would not be extended (Pang, Jordan-Marsh, Silverstein, & Cody, 2003). The cultural norm of not openly expressing negative feelings and a reluctance to ask for help or access health services may expose these patients even more vulnerable to physical and mental health morbidities (Torsch & Ma, 2000). This has great implications for health care providers to evaluate patients for depression and suicidal thoughts besides assess their support needs (Stokes, Thompson, Murphy, & Gallagher-Thompson, 2001). Special attention should be paid to older patients who are more reluctant to ask for assistance, as they may be at greater risk of having inadequate social support.

This study also highlighted an important source of social support – spiritual beliefs. A few patients spoke highly of the role of their Buddhist spirituality in living with the challenges of ESRD. The teaching of Buddhism, one of the most significant Eastern religions, promotes the philosophy of a harmonious equilibrium among the body, mind, spirit, and the nature and social environments (Chan, Ho, & Chow, 2001; Chen, 2001). Therefore, both pain and pleasure become less personal and experience becomes part of a much larger meaning. Two previous
studies also indicated the positive association of spirituality with social support and quality of life in hemodialysis patients (Kimmel, Emont, Newmann, Danko, & Moss, 2003; Patel et al., 2002). Additional research is needed to explore the impact of spirituality and religious involvement or activities in this population.

The main limitation of this study was its convenience sampling and small sample size. Generalization of the quantitative findings to the entire Chinese American hemodialysis population cannot be extended to younger patients, patients who are native born, or others not residing in Chinatowns. Also, in order to obtain a more holistic picture, health care providers and researchers might engage the patients’ caregivers when assessing support needs.

While current study and much of the research emphasized the benefits of receiving social support from others, it has been suggested that patients who provide social support to others also enjoy a strengthened interpersonal relationship, heightened sense of meaning and purpose to life, and an increased likelihood of receiving support in return (Krause, Herzog, & Baker, 1992). Further studies may better demonstrate the beneficial roles this reciprocal support system plays. Finally, future studies could help determine whether the NSSQ is detailed or culturally sensitive enough in assessing social support in ethnic populations. Nevertheless, this study has the strength of triangulation, applying both quantitative and qualitative strategies to draw out and enhance our understanding of the social support context in the studied population.
References


### Table 1

**Demographic Characteristics of Subjects** ($n = 46$)

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<td>2.67 months</td>
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<td>Age at immigration</td>
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<td>Spouses/partners</td>
<td>15</td>
<td>45.5</td>
</tr>
<tr>
<td>81-90</td>
<td>11</td>
<td>23.0</td>
<td>Family members</td>
<td>15</td>
<td>45.5</td>
</tr>
<tr>
<td>Country of origin</td>
<td></td>
<td></td>
<td>Others</td>
<td>3</td>
<td>9.1</td>
</tr>
<tr>
<td>China</td>
<td>17</td>
<td>37.0</td>
<td>Work status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>3</td>
<td>6.5</td>
<td>Unemployed</td>
<td>45</td>
<td>97.8</td>
</tr>
<tr>
<td>Age at immigration</td>
<td>Perceived Social Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-40</td>
<td>20 43.5 Part time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41-60</td>
<td>6 13.0 Full time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length of time on dialysis</th>
<th>Perceived Family income</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 3 months</td>
<td>11 24.4 Low</td>
</tr>
<tr>
<td>3-11 months</td>
<td>28 62.2 Medium low</td>
</tr>
<tr>
<td>1-2 years</td>
<td>6 13.3 Medium</td>
</tr>
<tr>
<td>3-4 years</td>
<td>10 21.7 Did Not Know</td>
</tr>
<tr>
<td>5-6 years</td>
<td>6 13.0 Refused to answer</td>
</tr>
<tr>
<td>7-8 years</td>
<td>2 4.3</td>
</tr>
<tr>
<td>9-10 years</td>
<td>3 6.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education level</th>
<th>Religion</th>
</tr>
</thead>
<tbody>
<tr>
<td>No formal education</td>
<td>Christian</td>
</tr>
<tr>
<td>Less than high school</td>
<td>Buddhism</td>
</tr>
<tr>
<td>High school</td>
<td>Taoism</td>
</tr>
<tr>
<td>Professional school</td>
<td>Folk religion</td>
</tr>
<tr>
<td>College degree</td>
<td></td>
</tr>
<tr>
<td>Graduate level or higher</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
</tbody>
</table>
Table 2

*Descriptive Statistics for Social Support Variables*

<table>
<thead>
<tr>
<th>NSSQ</th>
<th>Mean</th>
<th>Range</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Functional</strong></td>
<td>61.40</td>
<td>10 - 193</td>
<td>43.97</td>
</tr>
<tr>
<td>Emotional Support (Affect + Affirmation)</td>
<td>39.67</td>
<td>5 - 129</td>
<td>29.21</td>
</tr>
<tr>
<td>Tangible Support (Aid)</td>
<td>21.74</td>
<td>4 - 68</td>
<td>16.67</td>
</tr>
<tr>
<td><strong>Total Network Properties</strong></td>
<td>34.74</td>
<td>8 - 114</td>
<td>22.76</td>
</tr>
<tr>
<td>Network size</td>
<td>3.17</td>
<td>0 - 11</td>
<td>2.32</td>
</tr>
<tr>
<td>Duration of relationships</td>
<td>16.57</td>
<td>5 - 51</td>
<td>10.56</td>
</tr>
<tr>
<td>Frequency of contact</td>
<td>14.71</td>
<td>2 - 52</td>
<td>10.37</td>
</tr>
<tr>
<td><strong>Total Loss</strong></td>
<td>0.35</td>
<td>0 - 6</td>
<td>1.29</td>
</tr>
<tr>
<td>Number of lost network members</td>
<td>0.09</td>
<td>0 - 1</td>
<td>0.29</td>
</tr>
<tr>
<td>Quantity of lost support</td>
<td>0.17</td>
<td>0 - 4</td>
<td>0.83</td>
</tr>
</tbody>
</table>
Table 3

_Distribution of Sources of Network Members_

<table>
<thead>
<tr>
<th>Categories of Network Members</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouses or partners</td>
<td>18</td>
<td>12.33</td>
</tr>
<tr>
<td>Family members or relatives</td>
<td>101</td>
<td>69.18</td>
</tr>
<tr>
<td>Friends</td>
<td>14</td>
<td>9.59</td>
</tr>
<tr>
<td>Work or school associates</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Neighbors</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Healthcare providers</td>
<td>10</td>
<td>6.85</td>
</tr>
<tr>
<td>Counselor or therapist</td>
<td>1</td>
<td>0.68</td>
</tr>
<tr>
<td>Minister/ priest / rabbi</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>1.37</td>
</tr>
<tr>
<td>Total</td>
<td>146</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Table 4

*Descriptive Statistics for Social Support Variables of 3 Studies Using the NSSQ*

<table>
<thead>
<tr>
<th></th>
<th>Current Study (n = 46)</th>
<th>Institutionalized Elderly in a U.S. Southwestern City (n = 26)</th>
<th>Patients with Adenomatous Colon Polyps (n = 68)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSSQ</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Emotional support</td>
<td>39.67</td>
<td>29.21</td>
<td>72.05</td>
</tr>
<tr>
<td>Tangible support</td>
<td>21.74</td>
<td>16.67</td>
<td>23.71</td>
</tr>
<tr>
<td>Total functional support</td>
<td>61.40</td>
<td>43.97</td>
<td>95.76</td>
</tr>
<tr>
<td>Total network</td>
<td>34.74</td>
<td>22.76</td>
<td>67.49</td>
</tr>
<tr>
<td>Total Loss</td>
<td>0.35</td>
<td>1.29</td>
<td>-</td>
</tr>
<tr>
<td>Average number of network members</td>
<td>3.17</td>
<td>2.23</td>
<td>9.12</td>
</tr>
</tbody>
</table>

*Note.* Dashes indicate data were not reported.

aData extracted from study conducted by Nelson (1989). bData extracted from study conducted by Murphy, Prewitt, Bote, West, and Iber (2001).