Social Support and Religious Coping Strategies in Health-Related Quality of Life of End-Stage Renal Disease Patients

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ABSTRACT
Chronic disease states are known to cause psychological dysfunctions but are not well studied in patients with end-stage renal disease (ESRD). The purpose of this study was to identify the relationship and influence of social support and religious coping strategies on patient’s health-related quality of life (HRQoL). This study was conducted on 274 patients with ESRD who were treated chronic dialysis. The test instruments used were Provision of Social Relation (PSR) which was used to measure social support from family and friends, Short-Form 36 (SF-36) to measure their HRQoL and Religious Coping Strategies (RCS) to determine patients’ positive or negative nature of religious coping. Results showed that social support and religious coping strategies were significantly correlated with HRQoL in both aspects of physical component summary (PCS) and mental component summary (MCS). In addition, the findings showed that social support and religious coping were predictors of PCS and MCS. Therefore, these factors affected the quality of life in terms of physical and mental health. This study implies that attention should be given to any interventional processes to improve the HRQoL of ESRD patients. Future studies could clarify the issue of causality by employing longitudinal analyses or experimental designs.

Keywords: Social support, religious coping, health-related quality of life, end-stage renal disease, chronic dialysis

INTRODUCTION
Year by year, the global number of patients with renal failure is reportedly rising by 7% -10% (De Vos, 2002). In the United States, about 19 million people were reported suffering from kidney failure and more than 325,000 people were dialysis dependant which then rose to 494,471 people in 2007 (Pirtle et al., 2004). Later in the year 2007, about 34,200 patients were estimated undergoing dialysis in the United Kingdom and 230,000 people in Japan (Yeh et al., 2008). Meanwhile in Malaysia, at the end of 2009, there were about 21,159 patients with chronic kidney disease identified receiving dialysis treatment. The number of patients who received dialysis treatment was also found to increase from 6,689 in 2000 to 21,159 cases at end 2009. In the meantime, the number of new patients receiving dialysis treatment rose from 1,855 in 2000 to 4,146 in 2009 (Malaysian Dialysis and Transplant Registry, 2009).
Consistent with this drastic increase, the issues of health-related quality of life (HRQoL) of end-stage renal disease (ESRD) patients have become a hot topic discussed by many researchers. In general, studies that focused on HRQoL of kidney patients reported that most patients experienced a decline of life quality in those aspects associated with physical functioning compared with the normal population (Blake et al., 2000; DeOreo, 1997; Diaz-Buxo et al., 2000; Merkus et al., 1997; Vazquez et al., 2003), but not for mental functioning (DeOreo, 1997; Diaz-Buxo et al., 2000). However, there are also studies which found that kidney patients obtained lower scores for mental health components of quality of life compared with physical functioning. This was associated with increased survival rates among patients. On the other hand, the decline in physical functioning was associated with increased admission of patients to hospitals. Other researchers also found that dialysis patients were reportedly experiencing problems relating to quality of life, which include a low level of activities, sexual problems and difficulty in maintaining their jobs (Lok, 1996; Merkus et al., 1997).

Patients’ quality of life is variable and depends on the disease itself. Lopes et al.’s study (2007) showed some obvious features of kidney patients who had low levels in quality of life. Among others are patients’ low physical and mental aspects related to the coping strategies implemented by them. Furthermore, studies performed in United States showed that lack of social support may be associated with increased rates of mortality and morbidity (House et al., 1988). According to Caplan (1974) and Bloom (1990), the importance of interaction between patients’ network and their ability to use the sources of support received by patients will help improve health in terms of physical recovery hence may improve their quality of life (Ferrans and Power, 1993, Kimmel, 2001).

Furthermore, there are recent findings showing that religious elements and a strong stake in belief and faith were involved in one of the coping strategies that can reduce depression and negative perceptions of the disease’s impacts which were also used to improve quality of life (Patel et al., 2002). Having studied religious behavior, Argyle and Beit-Hallahmi (1975) found that most participants in the study need religion when in crisis situations, including during illness or loss and death. They added that performing prayers or praying were ways commonly identified. According to Pargament (1997), in order to produce positive and sustainable health, religious coping strategies (RCS) are needed when faced with pressure. He suggested that people will rely more strongly on religion when the situation is more serious, harmful, and threatening.

For ESRD patients, full recovery from illness is something that is uncertain. Therefore, they should react by maintaining good quality of life, including maximizing functionality, reducing the symptoms faced and lowering the stress experienced (Lopes et al. 2007). For that, the purpose of this study was to identify the relationship and influence of social support and religious coping strategies on health-related quality of life (HRQoL) of ESRD patients.

**METHODS**

This was a cross-sectional study. The question and answer session was conducted through face to face interview. Collection of data involved two sample groups receiving dialysis treatment, which were patients who received hemodialysis (HD) treatment and patients on continuous ambulatory peritoneal dialysis (CAPD) treatment.

This study involved 274 ESRD patients who were made up of 183 patients who received HD treatment and 91 CAPD patients. HD samples were patients from dialysis centers managed by the Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM) and those who received HD from dialysis centers managed by the Charity Dialysis Centre MAA-Medicare. Meanwhile, samples from CAPD patients were obtained from PPUKM and Putra Specialist Hospital in Johor.

The Short-Form 36 (SF-36) is a set of questionnaires commonly used in health
studies to assess the quality of life in a given population. HRQoL was assessed using SF-36 consists of 8 components which assess various aspects of function and well-being to provide a comprehensive objective of HRQoL. It took about 10 - 15 minutes to answer the questions. SF-36 is suitable for respondents over the age of 14 years. It contains 36 questions covering aspects of physical and mental health. The questions revolve around physical functioning, physical role, emotional role, social functioning, bodily pain, general health, vitality, and mental health. These questionnaires contribute to the evaluation of two major aspects of patients’ functioning - which comprised of physical component summary (PCS) and mental component summary (MCS) (Covic et al., 2004). The reliability of the SF-36 test instrument for all the 8 dimensions ranged from 0.66 to 0.89.

Provision of Social Relations (PSR) questionnaire created by Turner et al. (1983) is to measure social support. PSR contains 15 items that essentially fall into 2 dimensions of support, which are family support and friend support. This test tool also has good concurrent validity in which it has a significant relationship with Kaplan’s social support scale. However, PSR also has a negative relationship with some other test tools of psychological distress (Turner et al., 1983). The reliability of PSR for this study is 0.89.

Religious Coping Strategies instrument was constructed by the present researchers. It contains 20 items that examine two sub-scales of religious coping strategies in positive and negative forms. The development of this test equipment is based on Pargament’s religious coping scale. However, most of the items were modified and supplemented as appropriate to the religions and multiethnic cultures in Malaysia. Before the test instrument was administered to the study population, the instrument was first validated. After factor analysis was done, the value and reliability of this test device was 0.88.

Data were analyzed using the Statistical Package for Social Sciences (SPSS) 18.0. Descriptive statistics were used for describing the patient’s background. Pearson correlation analysis and multiple regressions with stepwise method were used in this study. A p value of ≤ 0.05 was taken as significance value.

**RESULTS AND DISCUSSION**

A total of 274 ESRD patients on chronic dialysis were recruited. Their demographic profile is summarized in Table 1. There were 51.5% male and 48.5% females. The majority were Malays (49.3%), married (75.9%), Muslims (52.2%) and aged 51 to 60 years (37.6%). Most of the patients were unemployed and without a pension (56.2%). On the other hand 18.2% of the patients were pensioners and the remaining 25.5% were still working. Of the 274 patients 66.8% were on HD and the remaining 33.2% on CAPD. Majority (50.7%) had been on dialysis for less than 36 months (3 years), i.e. 36.6% for 36-120 months (3-10 years) and the remaining 12.8% for more than 120 months (> 10 years).

**TABLE 1**

Demographic profile of the total ESRD patient population

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>141</td>
<td>51.5</td>
</tr>
<tr>
<td>Female</td>
<td>133</td>
<td>48.5</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>135</td>
<td>49.3</td>
</tr>
<tr>
<td>Chinese</td>
<td>110</td>
<td>40.1</td>
</tr>
<tr>
<td>Indian</td>
<td>23</td>
<td>8.4</td>
</tr>
<tr>
<td>Others</td>
<td>6</td>
<td>2.2</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
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<tr>
<td>Islam</td>
<td>143</td>
<td>52.2</td>
</tr>
<tr>
<td>Buddhism</td>
<td>80</td>
<td>29.2</td>
</tr>
<tr>
<td>Hinduism</td>
<td>22</td>
<td>8.0</td>
</tr>
<tr>
<td>Christianity</td>
<td>11</td>
<td>4.0</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
<td>6.6</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 40 years</td>
<td>50</td>
<td>18.2</td>
</tr>
<tr>
<td>40 – 50 years</td>
<td>53</td>
<td>19.3</td>
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<tr>
<td>51 – 60 years</td>
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<td>37.6</td>
</tr>
<tr>
<td>&gt; 60 years</td>
<td>68</td>
<td>24.8</td>
</tr>
</tbody>
</table>
Table 2 summarizes the result of the eight components of patients’ HRQoL. Based on the mean values, the table indicates that all eight components of HRQoL were at the median level of 50. The highest mean value was that of the component of social functioning (79.38), while the lowest value was for the general health component (60.50). Furthermore, the study results also showed that the mean values for the PCS and MCS were 70.46 and 72.96 respectively. Patients were receiving good support from family and friends. Similarly, with the religious coping of mean value 54.60, it indicates that patients had high positive religious coping strategies. The standard deviation of all components of HRQoL showed a small dispersion.

To test the influence of social support and religious coping on PCS and MCS, multiple regression analysis using stepwise method was used. Results are as shown in Table 4. Social support and religious coping influenced the PCS and contributed only 7%. Furthermore, results shows that social support and religious coping contributed 13% to the MCS.

Chronic kidney disease (CKD) and end-stage renal disease (ESRD) are raising global pandemics. Kidney failure is the only organ failure, the functions of which can be replaced...
on an indejuite basis by dialysis-hemodialysis or peritoneal whilst awaiting renal transplantation. The dialysis population is thus rising and with any chronic illness, it is finally that HRQoL issues be addressed. There was a significant positive correlation between social support and HRQoL. This suggests that social support from family and friends play a very important role in determining the patients’ HRQoL. The social support received by ESRD patients in this study was high. This finding concurs with those of some earlier studies performed on ESRD patients (Platinga et al., 2010; Siegel et al., 1987; Tell et al., 1995).

Social support is particularly relevant for ESRD patients whose lives depend on dialysis and multiple medicines easing their burden. According to Caplan (1974) and Bloom (1990), interaction between patients’ networking and their ability to use sources of support and the support received will help in improving health in terms of physical recovery and also HRQoL (Ferrans and Power, 1993; Kimmel, 2001). Not only did the findings of this study agree with those previously reported, they also support the theory of crisis which explained how patients were adjusting to the chronic illness they suffered. According to this theory, the individual who does not have good relations with others in their social groups and who live alone tends not to be able to adapt to chronic illness (Gentry and Kobasa, 1984; Wallston et al., 1983).

The existence of social support from family, close friends, neighbors, doctors, and paramedics will affect health directly or indirectly. Directly through the information or motivation received and indirectly through the encouragement given to patients who are compliant with treatment, diet and fluids as well as medications (Bloom, 1990; Cohen and Wills, 1985; Pang et al., 2001; Kimmel, 2001). Indeed, a close relationship with their spouse and friends may predict patient’s satisfaction with the support they receive (El, 1996; Hobfoll et al., 1986; Pang et al., 2001).

Results on religious coping strategies had a positive association with PCS and MCS. This suggests that patients who utilized highly positive religious coping strategies will also have a high level of physical and mental HRQoL. Although the study focusing on religious coping and the HRQoL of ESRD patients had not become the focus of previous researchers, this finding supports the study conducted by researchers who examined the relationship between religious coping strategies with other diseases. A few researchers have explored these issues. Takeshwar et al. (2006) had examined religious coping strategies and quality of life in patients with cancer. Koenig et al. (1998) also focused on patients hospitalized for various illnesses experienced. Their findings showed that patients with poor physical health, lower quality of life, and high level of depression had highly negative religious coping mechanisms. Studies by Baldree et al. (1982) and Gulkis and Menke (1995) on HD reported that among the most common strategies used by patients were to pray and to have strong belief in God. Hence our findings on the positive impact of religious coping strategies used by the ESRD patients’ further emphasize the importance of this strategy.

The use of positive religious coping strategies among ESRD patients may be due to several factors and presumptions. Malaysian in particular Malays and Muslims remain deeply

<table>
<thead>
<tr>
<th>Variable</th>
<th>PCS</th>
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<tbody>
<tr>
<td></td>
<td>B</td>
<td>R²</td>
<td>F</td>
<td>B</td>
<td>R²</td>
<td>F</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Social support</td>
<td>0.18***</td>
<td>0.05</td>
<td>15.52</td>
<td>0.22***</td>
<td>0.09</td>
<td>27.85</td>
<td></td>
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<tr>
<td>Religious coping</td>
<td>0.14*</td>
<td>0.07</td>
<td>10.15</td>
<td>0.22***</td>
<td>0.13</td>
<td>21.02</td>
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</tbody>
</table>

*p < 0.05, **p < 0.01
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religious and are highly dependent on their God. This will empower these patients to accept challenges with an open heart and will overcome their maladies with the ‘help’ of God. ESRD patients also realize they have no other options other than chronic renal replacement therapy. Therefore the only hope that they have is to turn to their God, whereby surrendering to the will of God can reduce depression and anxiety resulting from the disease. This shows that religion is especially useful during this kind of trouble and crisis.

CONCLUSION
Social support and religious coping strategies are important albeit not major factors that impact the HRQoL of ESRD patients on chronic dialysis. These factors, especially social support, should be given due attention in any interventional processes that are intended to improve the HRQoL this patient population. One implication of the study is the practical use of these strategies especially to care givers as they would definitely benefit from any kind of strategy that can promise an effective outcome. For that reason, in future, health authorities and healthcare workers should prioritize research into social support and religious coping for patient interventions to enhance HRQoL in patients.

REFERENCES
Social Support and Religious Coping Strategies in Health-Related Quality of Life


