Post-dialysis Fatigue in Hemodialysis Patients

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Abstract. The purpose of this study was to identify the post-dialysis fatigue in patients on hemodialysis. The subjects for this study were 103 patients who were receiving chronic hemodialysis in outpatients dialysis clinic in Seoul between April 12th and April 23rd, 2010 and consented to participate in the study. The collected data were analyzed by the SPSS WIN 12.0 program. The mean score of fatigue were 63.4, 86.8 and 60.8 before hemodialysis, after hemodialysis and next day, respectively. It is considered that dialysis provider care to recognize post-dialysis fatigue as the important nursing issue for hemodialysis patients. And it is necessary to develop a nursing intervention for improving their fatigue.

Keywords: hemodialysis, post-dialysis fatigue, nursing

1 Introduction

Fatigue is one of the most frequent complaints of dialysis patients and is associated with impaired health-related quality of life (HRQOL). The prevalence of fatigue ranges from 60% to as high as 97% in patients on long-term renal replacement therapy. The importance of fatigue to patients with kidney disease is underscored by the observation that 94% of hemodialysis patients endorsed a willingness to undergo more frequent dialysis if there would be an associated increase in energy level [1] [2].

Post-hemodialysis fatigue is a common, often incapacitating symptom and may be improved with more frequent treatment. Lindsay et. al looked at post-dialysis fatigue in 45 subjects and found a positive association between “time to recover (minutes) from HD” and fatigue; patients with longer recovery time tended to have greater levels of fatigue [3]. Also, the relationship between recovery time and fatigue was strongest immediately after dialysis and weakened progressively during the time between sessions. In this study, the time to recover from HD also showed a significant positive association with the total dialysis stress score, which encompasses an array of physical signs and symptoms that can arise during HD procedure [4]. Ultrafiltration, diffusion, osmotic disequilibrium, changes in blood pressure, blood membrane interactions, higher levels of tumor necrosis factor and psychological factors like depression have all been implicated in the pathogenesis of post-dialysis fatigue [5].
The purpose of this study was to identify the post-dialysis fatigue in patients on hemodialysis.

2 Methods

2.1 Subjects and data collection

The subjects for this study were 103 patients who were receiving chronic hemodialysis in outpatients’ dialysis clinic in Seoul between April 12th and April 23rd, 2010 and consented to participate in the study. Those who agreed to answer the questionnaire were given it. Data were collected using face to face interview with a structured questionnaire. It took 10 minutes to complete the questionnaire.

2.2 Instruments

The post-dialysis fatigue of subjects was assessed the first invented by Lee, Hicks and Nino-Murcia (1991) and them modified by Kim (1995) [6]. The total score ranges from 0-100mm Visual Analogue Scale for each subscale.

2.3 Data analysis

Collected data were statistically analyzed with SPSS WIN (ver. 12.0) program. Analysis included percentage, average and standard deviation.

2.4 Ethnical consideration

Standard ethical can legal points were followed regarding the use of reporting subjects in research; salient, relative points were explained to all subjects.

3 Results

3.1 General characteristics of patients

The general characteristics are presented in Table 1. Fifty-four point four percent of patients were male, with a mean age of 61.2 years.
Table 1. General characteristics of patients

<table>
<thead>
<tr>
<th>Variables</th>
<th>N(%) or Mean±SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>56(54.4)</td>
</tr>
<tr>
<td>Female</td>
<td>47(45.6)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>61.2±11.3</td>
</tr>
<tr>
<td>Years of education</td>
<td>10.2±3.3</td>
</tr>
<tr>
<td>Comorbidities</td>
<td>2.5±0.9</td>
</tr>
</tbody>
</table>

3.2 Post-dialysis Fatigue

The mean score of fatigue were 63.4, 86.8 and 60.8 before hemodialysis, after hemodialysis and next day, respectively<Table 2>. There was a statistically significant increase ($t=-5.1, p<.001$).

Table 2. Post-dialysis fatigue of hemodialysis patients

<table>
<thead>
<tr>
<th>Fatigue</th>
<th>Pre-hemodialysis</th>
<th>Post-hemodialysis</th>
<th>Next day</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean±SD</td>
<td>Mean±SD</td>
<td>Mean±SD</td>
</tr>
<tr>
<td>Hemodialysis</td>
<td>63.4±10.2</td>
<td>86.8±9.8</td>
<td>60.8±8.6</td>
</tr>
</tbody>
</table>

4 Discussion

This study was to identify the post-dialysis fatigue in patients on hemodialysis. We found that they have severe fatigue and fatigue score changes; the mean of pre-hemodialysis fatigue score was 63.4 and post-hemodialysis fatigue score 86.8. There was a statistically significant increase.

As a conclusion of these findings, it is considered that health care provider care to recognize post-dialysis fatigue as the important nursing issue for hemodialysis patients. And it is necessary to assess the impact of frequent and novel dialysis techniques on post-dialysis fatigue.

References