Effect of Case-Management Program on Dementia Patients

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Abstract. This is the quasi-experimental study to examine the effect of case-management program on cognitive function and depression of dementia patients living in the community. The subjects were 10 elderly who agreed to participate 10 weeks, once a week, 1 hour program. Case-manager visited subjects' home, once a week and did cognitive health program. Data gathered and analysis by SPSS 21.0 win. General characteristics were analyzed using paired t-test for determine the differences between pre and post intervention on cognitive function and depression.

Keywords: Dementia, Elderly, Case-management, Depression, MMSE-K

1 Introduction

Korea is a country which is experiencing the fastest aging worldwide and under the situation where it has to sensitively correspond to change in economy and society followed by aging.

As Korea became aging society in 2000, the ratio of elderly population of 65 is 11.0% among total population in 2010 with continuous increase and it is an aging society in which 35.7% of Si, Gun, and Gu has over 20% of elderly population among total population. However, 49.4% of the elderly reported their subjective health to be 'bad' and has health issues with 50.3% in disease prevalence state (Statistics Korea, 2011). The disease which presented high prevalence particularly in elderly population was dementia of which its prevalence is estimated to be 9.1% in 2010 and there was 26.8% increase in elderly dementia patients while there was 17.4% increase in elderly population from 2008 to 2012 and it is estimated that there will be more than 1 million elderly dementia patients with 14.5% increase by 2025 (Ministry of Health & Welfare, 2012).

Dementia is one of representative degenerative chronic diseases which requires continuous caring and nursing as there is gradual difficulty in performing daily lives independently without help of others (Covinsky et al., 2003) due to disability in language, behavior, memory, and intellectual capacity and character change followed by irreversible and organic brain damage upon its outbreak (Lee, Park, & Kim, 2005).

A case manager shall possess the capacity to grasp the situation through interview with subject to accomplish the purpose of case management, provide emotional...
support and information to subject, grasp resource and information of local community for service provision, procure formal and informal resources for subject, and perform treatment intervention to family of subject upon necessity (Yeon, 2009). Case management is conducted in order to more effectively satisfy the complex demand of the subject and its family in home care service domain (Minjeong Song, 1999).

Therefore, the purpose is to develop the case management program and examine its effect by regularly visiting actual family with dementia patients.

2 Methods

2.1 Research Design

It is one group pre-posttest only design for intervention of case management program with local community residing low income mild dementia patients as its subject to examine its effect.

2.2 Subject

Among patients residing in Seoul, Korea in 2013 registered to its health clinic and diagnosed with mild dementia.

2.3 Case-management Program

Case management program is total 10-week program in which there is 1 hour/day and 1 day/week visit. Program provider was health clinic nurse and volunteer who received certain period of in-advance education. With two people in a group, they have made 10 visits for performance and evaluation of weekly arranged program.

2.4 Research Tools

1) MMSE-KC
Mini Mental Status Examination Korean version (MMSE-K), a revised and supplemented version of MMSE developed by Folstein, Folstein, and McHugh (1975) to be used for Korean elderly by Yongcheol Kwon and Jonghan Park (1989) was used for measurement.

2) Depression
It was measured with the use of Korean version of Short Form of Geriatric Depression Scale (SGDS) developed by Maengje Cho et al (1999). This tool consists of 15 questions which entails ‘Yes’ 1 point and ‘No’ 0 point. The higher the score
more severe the depression. It is diagnosed as normal for under 5 point, high possibility of depression for 5-9 point, and depression for 10 point or higher.

2.5 Data analysis

Collected data was analyzed with the use of IBM SPSS 17.0. Descriptive statistics was conducted for general characteristics of subject, cognitive function, and depression. Difference in MMSE score and depression of the subject before and after case management program was examined with paired t-test.

3 Results

3.1 General Characteristics of Subjects

The number of subject was total 10 including 2 men and 8 women with average age of 73.7. Single residence elderly was 5 and only 1 subject lived with spouse and their siblings. In regards to cognitive function, average MMSE score was 16.0 point and average and average depression score was 6 point <Table 1>.

Table 1. Characteristics of subject

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Categories</th>
<th>Frequency (%)</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>2 (20%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>8 (80%)</td>
<td></td>
</tr>
<tr>
<td>Age(year)</td>
<td>65-70</td>
<td>2 (20%)</td>
<td>73.7 (3.9)</td>
</tr>
<tr>
<td></td>
<td>71-75</td>
<td>6 (60%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>76-80</td>
<td>2 (20%)</td>
<td></td>
</tr>
<tr>
<td>MMSE score</td>
<td></td>
<td>16.0 (4.4)</td>
<td></td>
</tr>
<tr>
<td>Depression score</td>
<td></td>
<td>6.0 (1.9)</td>
<td></td>
</tr>
</tbody>
</table>

3.2 Effect of case management program

1) Effect on cognitive function

Pre and post case management MMSE score was 16 and 13.5 point out of total 30 point on the average presenting no significant difference.

2) Effect on depression

Pre and post case management depression score was 6 and 3.22 point out of total 9 point on the average presenting significant difference (t=2.676, p=.028).
Table 2. Comparison on before and after case management

<table>
<thead>
<tr>
<th>Variables</th>
<th>Before</th>
<th>After</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMSE score</td>
<td>16 (4.4)</td>
<td>13.5 (4.1)</td>
<td>1.20</td>
<td>.26</td>
</tr>
<tr>
<td>Depression score</td>
<td>6 (1.0)</td>
<td>3.2 (2.1)</td>
<td>2.68</td>
<td>.03</td>
</tr>
</tbody>
</table>

3 Discussion

According to in-home management case report of Misuk Choi (2002), there was no change in cognitive function measured with MMSE-K same as this study as a result of conducting in-home management of over 1 year with 71 male as its subject. Other than that, it was reported that there was partial control of patient's symptoms accordingly with instruction on continuous medication and positive improvement in physical disability and daily life performance domain.

References