The Effects of Memory Rehabilitation in Patients with Vascular Dementia

Shuang WANG\textsuperscript{a}, Hong-Jun ZHANG\textsuperscript{b}, Li-Huan LIU\textsuperscript{c}, Li-Ya A\textsuperscript{d}, Chun-Li MEI\textsuperscript{e}\textsuperscript{*}

Beihua University, Fengman District, Jilin City, Jilin Province, China

\textsuperscript{a}1164594763@qq.com, \textsuperscript{b}1174017921@qq.com,
\textsuperscript{c}673641292@qq.com, \textsuperscript{d}1069984087@qq.com, \textsuperscript{e}1227002496@qq.com

*Corresponding author

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Abstract. This study is mainly to use memory nursing rehabilitation training method to intervene vascular dementia patients, observe the changes of memory function of patients, and find evidence of evidence-based medicine for the effectiveness of memory training rehabilitation nursing intervention vascular dementia. The patients were divided into the experimental group and the control group based on the selection of the patient and the families, 20 cases in each group. The control group was given routine treatment, the experimental group also performed rehabilitation treatment for the patient’s memory except routine treatment, including association method, recitation method, decompose-association method, reminder method, memory technique and other memory training. The specific operation methods include visual memory, map work, and block arrangement of colored blocks, memory treatment and so on. The training once per day, 60 minutes every time for a month, two groups of patients use hasegawa dementia scale (HDS), wechsler memory scale (WMS) for quality evaluation, and use Paired t test compare the memory differences between the two groups. The average score of HDS scale between experimental and control group were 26.18±3.92 and 18.16±3.11 after the intervention, respectively. The average score of WMS scale between two groups were 84.16±5.15 and 62.13±4.12 after the intervention, respectively. The memory rehabilitation training could help improve the memory of vascular dementia.

Introduction

Vascular dementia(VD) includes ischemic cerebrovascular disease, hemorrhagic cerebrovascular disease and various clinical dementias resulting from cerebrovascular diseases that cause low perfusion in the brain function area, including memory function area, cognition function area and behavior function area. Cerebrovascular disease affects the frontal, temporal, and limbic systems, or causes damage to sufficient volume of brain tissue, resulting in severe impairment of higher cognitive functions such as memory, attention, executive function and speech.
Methods

Clinical Data

This study was conducted between July to December in 2017. In this study 20 cases of mild and moderate vascular dementia patients was chose as the experimental group based on the selection of the patient and their caregivers. During the same period, another 20 cases of mild and moderate vascular dementia patients was chose as the control group. The personal information of all the patients was provided by the patients and their caregivers. And exclude the cases whose cognitive decline was caused by Alzheimer disease. The control group was treated with conventional drugs, and the experimental group used memory rehabilitation nursing intervention on the basis of routine treatment, with a time of 60 minutes and one month each time.

Vascular dementia patients generally stay in hospital for two weeks. During the period of the hospitalization, the patients was guided by the medical staff to recovery. At the same time, the patients’ caregivers learned the details of memory rehabilitation training. After discharge, the patient was conducted the memory rehabilitation exercise by the patient’s caretaker. Use telephone or WeChat to make sure that the patient’s did the training everyday.

Memory Rehabilitation Nursing Methods

**Visual memory training.** First, put 3-5 pieces of cards painted with familiar objects in daily life in front of the patient. Second, let the patient gaze at each card for 5 seconds and try to remember the contents of the card. Then, took the cards away. Ask the patient to write down the name of the object on the card he had seen over and over again until the patient can write down all the contents of the cards correctly. Then, increase the number of cards. After the patients finish it again, add more contents on one card and repeat all steps as mentioned above.

**Map operation training.** First, the therapist starts from somewhere and went along the street with his finger to another point to stop on a city map with streets and buildings signs and without literal marking. Second, let the patient put his finger at the point where the therapist stopped and get back to the starting point from the terminal point. Performed 10 rounds every day until the patients find the right place along the right path for two days in a row. And then increase the complexity of the route.

**Color block sequencing.** There are six different colors of 2.5cm×2.5cm×2.5cm blocks and a stopwatch for the items to be used. Show the patient a block of wood at the rate of one piece per 3 seconds. After the display of all the blocks, ask the patients to display the blocks in the order shown by the therapist. Remark the result as “+” if the patient show it as the same order, otherwise remark it as “-”. Repeated all the steps ten times for each day and increase the difficulty until the patients can reappear the same order for two days in a row.

**Others.** Recollection of the treatment includes individual reflections, interviews with people, group sharing, and so on.

Evaluation Criteria of Curative Effect

The Kyohko Hasegawa Dementia Scale (HDS) and Wechsler’s Memory Scale (WMS) were used to evaluate the quality of the curative effect.
**Result**

The result showed that 30% and 35% of experimental and control group were female, respectively. The mean age of experimental and control group were 61.42±10.52 and 61.03±9.45 year, respectively. The average score of HDS scale between experimental and control group were 17.25±2.16 and 18.13±3.84 before the intervention, respectively. The average score of WMS scale between two groups were 61.23±4.67 and 62.46±5.28 before the intervention, respectively. There was no significant difference of memory between two groups before intervention. Table 1 shows the HDS scores and WMS scores between experimental and control group before and after intervention. The results shows that the patients of experimental group has a better memory function after a month of memory rehabilitation nursing training and drug therapy. The memory function of the control group has no obvious change and some of patients in this group have even a worse memory function after one month with taking medication only.

**Table 1. Memory function comparison between the trial group and the control group.**

<table>
<thead>
<tr>
<th>Group</th>
<th>Score of HDS scale</th>
<th>Score of WMS scale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before intervention</td>
<td>After intervention</td>
</tr>
<tr>
<td>The experimental</td>
<td>17.25±2.16</td>
<td>26.18±3.92</td>
</tr>
<tr>
<td>group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The control group</td>
<td>18.13±3.84</td>
<td>18.16±3.11</td>
</tr>
</tbody>
</table>

**Conclusion**

Memory function training has a positive effect on the improvement of memory in patients with vascular dementia.

**Discussion**

At present, there is no special drug treatment for dementia, and the emphasis should be placed on the delaying the progress of the disease with medication and improving the cognitive situation with rehabilitation training and family care. The nursing of senile dementia may be better than the effect of treatment. Effective nursing can prolong the life of the patient and improve the quality of life of patient and prevent the patients from accidents. Vascular dementia is a kind of reversible dementia. For patients with mild or moderate dementia, comprehensive rehabilitation therapy will greatly improve the cognitive function of patients, reduce non-cognitive neuropsychiatric symptoms, improve their social life ability, and delay the development of dementia. For patients with severe dementia, rehabilitation therapy still has some help, but it needs to be trained for a long time[1].

After diagnosis of dementia, rehabilitation therapy must be carried out in early stage of disease. In the course of the development of vascular dementia, providing continuous treatment of comprehensive rehabilitation, offering health education, keeping diet, keeping physical
exercise, changing social intercourse, and some other forms of nursing care can reduce or delay the development of dementia. Combine with drugs and rehabilitation therapy and some supportive treatments when using the above method cannot reach the ideal effect. The main goals of rehabilitation therapy are reducing the cognitive impairment of patients, controlling abnormal mental neurobehaviors, improving the living ability of daily life, improving social skills, ameliorating the ability of self-care and speeding up the pace of the returning to society, promoting them to return to work [2].

In this study, only the patients with mild and moderate cognitive function declining were chose. The results show that the memory function rehabilitation training has effect on the improvement of memory function in patients with vascular dementia. Of course, we still need to focus on basic life behaviors in early period of disease. The main training contents in the early stage are wearing clothes, switching posture safely, moving in and out of the toilet, shower room, walking with heavy objects smoothly, getting up and off the bus and something else. In the middle and late stage of disease, we should focus on maintaining the level of the original cognitive function and activity ability of the patients, strengthen the supervision of the safety of daily activities, and provide a simple, easy operation and labor-saving way to complete daily activities. Pay attention to the safety of the patient’s daily activities and arrange the housework and self-care behaviors according to the patient’s habit [3].

The specific method of memory rehabilitation training and other brain functions rehabilitation training, the training time and the effect of rehabilitation training of vascular dementia is lack of evidence-based medical evidence. This study used a randomized and controlled experiment, to explore the clinical curative effect of rehabilitation training on memory of patients with vascular dementia, and provide clinical reference for rehabilitation training in patients with vascular dementia.

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References

