

Does a cognitive stimulation program applied in dementia patients improve cognition and quality of life perception?

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Introduction

Given the increasing prevalence of dementia, any intervention that can effectively slow the deterioration of cognitive function is of great importance. Previous works have shown benefits from cognitive stimulation in patients with dementia. These benefits have been found mostly in cognitive measures post treatment but in other aspects such as improvement of depressive symptoms or social activity. These gains have been replicated in various formats, including individual, group and computer-based activities, generally applied in a twice per week format (1, 2).

Method

Subjects: 23 patients (52% men, mean age 75±6) diagnosed with dementia (78% Alzheimer's disease, 13% vascular+ Alzheimer diseases, 9% frontotemporal) participated. (TABLE 1. Subjects selection criteria) Inclusion criteria were dementia diagnosis with a low-mild cognitive impairment, according to Reisberg's Global Deterioration Scale (GDS 4) and small dependence to daily life activities (Barthel Index mean score was 96-7±7.8.) Exclusion criteria were current presence of disturbing behavior disorders that could interfere in the proper development of the activity and lack of education. Mini-Mental State Examination's (MMSE) basal scores were 20.5±3.6 (mean±SD) while basal scores in Quality of life in Alzheimer's Disease scale (Qom-AD)(3) were 35.5±5.1(mean±SD) (TABLE 2. Sample description)

Methodology: SCG is a 4-month stimulation program consisting on individual and group activities, including human-computer interaction based tasks. That program is applied on a once a week frequency and a 1-hour and a half duration. It includes personalized individual activities for each participant and group activities.

Individual cognitive stimulation: Smartbrain computer program was used, which is an interactive program that stimulates a variety of cognitive areas including orientation, memory, gnosis or language through exercises with 15 levels of difficulty. The computer-based part is completed with similar tasks in paper format.

Group cognitive stimulation: A group activity conducted by two therapists completes the program. A wide range of cognitive areas, emotional expression and daily life activities are stimulated through audiovisual material while verbal communication and participation is encouraged.

Assessment: An evaluation of cognitive and of quality of life perception's changes was made through a mean comparison in order to assess the program. MMSE and Qom-AD scores before and after SCG comparison was made using T student's statistics for this purpose.

Results

Scores after CSP were 21.7±3.4 and 38±5.1 for MMSE and QoL-AD, respectively. A significant improvement in MMSE and QoL-AD scores was found ($p < 0.05$) (FIGURE 1. Before and after intervention MMSE and QoM-AD scores)

Conclusions

Results showed a significant improvement in cognitive measures and in quality of life perception in dementia patients that participated in CSP. These results are consistent with previous works and provide evidence about benefits of cognitive stimulation in dementia, even when it is made in a once a week frequency format.

Bibliography

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Goal

The aim of this work is to assess changes in cognition and quality of life perception in dementia patients who have participated in a Stimulation Cognitive Program (SCG) in a Cognitive and Behavior Disorders Unit from Barcelona.

Table 1. Subjects selection criteria

Inclusion criteria	Exclusion criteria
Dementia diagnosis	Presence of disturbing behavioral disorders
Mild cognitive impairment (GDS=4)	Lack of education
Small dependence to daily life activities	

Table 2. Sample description

Subjects	N=23
Gender (Men)	12 (52%)
Age	75±6 (mean±SD)
Diagnosis	
Alzheimer Disease	18(78%)
Vascular+Alzheimer	3(13%)
Fronto-temporal	2(9%)
Scales	
MMSE (mean±SD)	20.5±3.6
QoM-AD (mean±SD)	35.5±5.1

Figure 1. Before and after intervention MMSE and QoM-AD scores

