



Service Priorities and Programmes
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Treatment Effects of Computer-based versus Non-computerized Cognitive Stimulation Program in Elderly Patients with Dementia in a Hospital Out-patient Setting in Hong Kong – a pilot study

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Introduction

Effectiveness of non-pharmacological interventions for people with dementia (PWD) is supported by growing evidence(Burgener, Buettner, Beattie, & Rose, 2009). Some suggested that using computer applications, as a means for cognitive stimulation, would potentially be a cost effective intervention for PWD(Garcia-Casal et al., 2016). Computer-based programs specifically for the rehabilitation of cognitive function for dementia have been developed and progressively widely used(Cipriani, Bianchetti, & Trabucchi, 2006).

Objectives

To explore the feasibility and effect of a computer-based cognitive stimulation for PWD

Methodology

A single-blind clinical trial was conducted. 12 elderly patients with mild to moderate dementia were recruited. They were randomly assigned to computer-based cognitive stimulation program(CBCS) and non-computerized cognitive stimulation program(NCCS). 12 sessions of program were conducted over 3 months. Cognitive and functional assessments were done before and after the training. The baseline and outcomes of the 2 groups were compared. Ethical approval was sought.

Result

6 subjects were recruited to the two groups. 2 subjects dropped out from the group of NCCS. The baseline characteristics of the 2 groups were comparable with no significant differences in all the demographic data, baseline cognitive and functional assessment by statistical analysis. (all $p>0.05$)

There were positive gains for both groups. For the within-group difference, MBI-C mean score increased by 0.83($p=0.317$) and HKIADL mean score increased by 0.17 ($p=0.317$) in CBCS. MBI-C mean score increased by 0.25($p=0.83$) and there was no gain in HKIADL mean score in NCCS. CDRS mean score increased by 2($p=0.317$) in

NCCS, whereas in CBCS group, CDRS mean score decreased by 1.22($p=0.753$). For the between-group difference, the comparison results in the change in functional and cognitive performance were statistically insignificant(all $p>0.05$).

Conclusion

Functional level of PWD could be improved or at least well maintained after the intervention by the cognitive stimulation programs. Improvement of cognitive performance is more for NCCS group mainly due to the individual input by OT who instantly responded to the subjects' performance and provided individualized strategies for tackling the cognitive challenges. The trial gave insight to clinician on the importance of program design and the individual input during computer-based cognitive stimulation. This study trial reflected the implication for further recruitment of more subjects to achieve statistical reliability of the study. Furthermore, the project gave insight for future study on effectiveness of similar cognitive stimulation program integrating with functional task training, or study on how the mode of delivery the kind of program may impact on the outcome performance of the PWD.