Evaluating the sustainability of computer-based cognitive training program for older adults with cognitive decline managed in Hong Kong primary care setting.

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Background (1)

- Primary care
  - Early detection of cognitive impairment, e.g. Mild cognitive impairment, dementia.
Background (2)

• Kowloon Central Cluster (KCC) Enhancement of Public Primary Care Service (EPPS)
  – Occupational Therapy Service in 2012
Background (3)

- Referral for cognitive assessment and training
  - Around 29% of total new referrals in 2013
  - Subjective/Objective memory decline reported to GOPC doctors firstly
Background (4)

- Abstract in 2014
- Modified computer based cognitive program by our centre
  - Positive effectiveness indicated
- Result was consistent to previous research studies$^{3,4,5}$
Corner of computer based cognitive training
Objective

• To evaluate the sustainability of clients’ cognitive function who completed computer based cognitive training after 6 months.
Methodology (1)

• Retrospective study
  – 320 cases were retrieved between March 2013-April 2014

• Inclusion criteria
  – Aged >= 65 y.o.
  – Self reported memory problem in daily life
  – CMMSE scores within 13-29 (13-22: suspected dementia; 23-29: suspected mild cognitive impairment)
  – Completed 6-month cognitive assessment

• Treatment
  – Modified computer-based cognitive training program
  – Cognitive areas covered attention, memory, logical reasoning, etc.
  – Weekly basis for 8 weeks
Methodology (2)

• Control group vs. Intervention group

• Outcome measures
  – Chinese Mini Mental State Examination (CMMSE)
  – Everyday Memory Questionnaire (EMQ)
Demographic data (1)

- 44 clients were selected.
- Self-declared onset time of memory decline
  - Ranged from 2 months to 8 years
  - Average 1.61 years.
### Demographic data (2)

#### Illness comorbidity

<table>
<thead>
<tr>
<th>Illnesses</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>The intervention group (n=18)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>The control group (n=26)</td>
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</tbody>
</table>

#### Mean age and educational level

<table>
<thead>
<tr>
<th></th>
<th>The intervention group (n=18)</th>
<th>The control group (n=26)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>80 years old</td>
<td>81 years old</td>
</tr>
<tr>
<td>Mean educational level</td>
<td>5 years</td>
<td>4 years</td>
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</table>
The intervention group

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMMSE_baseline vs. CMMSE_6-month</td>
<td>-1.000</td>
<td>2.108</td>
<td>-2.068</td>
<td>0.053</td>
</tr>
<tr>
<td>EMQ_baseline vs. EMQ_6-month</td>
<td>1.211</td>
<td>3.31</td>
<td>1.594</td>
<td>0.128</td>
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</tbody>
</table>

The control group

<table>
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<tr>
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<th>Std. Deviation</th>
<th>t</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMMSE_baseline vs. CMMSE_6-month</td>
<td>1.308</td>
<td>1.914</td>
<td>3.485</td>
<td>0.002</td>
</tr>
<tr>
<td>EMQ_baseline vs. EMQ_6-month</td>
<td>0.115</td>
<td>2.833</td>
<td>0.208</td>
<td>0.837</td>
</tr>
</tbody>
</table>
Conclusion

• Our modified computer based cognitive training shows promise in sustaining cognitive function for 6 months for older adults.
Implication

• Early consultation and intervention in the primary care setting
  – self-declared memory decline onset time up to 8 years.

• Public promotion
  – Patients and caregivers
  – Misperception to cognitive impairment in daily life
  ➔ ↑ awareness
Enhancement for service

Empowerment of clients and caregivers
- MCI/Dementia educational talk
- Occupational lifestyle redesign program
- MCI self management program

Self management approach
- Facilitated the generalization of cognitive skills in daily practice
- Increases both clients and caregivers' self efficacy to the management of cognitive impairment

Develop new interest
- Cognitive stimulating activities
- Brain health knowledge
- Body mind exercise

Skills - Lifestyles
Reference (1)


Thanks!

Q&A

- Think Positive
- Be Sociable
- Eat Healthily
- Keep your mind active and learn new things
- Exercise