



香港認知障礙症協會
Hong Kong Alzheimer's Disease Association

Chinese **Six Arts** for People with Mild Cognitive Impairment or Early Signs of Dementia **A Pilot Study**

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Background

- Group-based cognitive stimulation and exercise programmes shown to be effective in dementia for cognition, ADL, and QoL (Woods et al, 2012; Forbes et al, 2013)
- How to implement?
- A cultural framework to structure cognitively stimulating activities and physical exercise for Chinese population developed in Hong Kong (Wong et al, 2014)
- Theoretically applicable to people with mild cognitive impairment and early signs of dementia with adaptation



Woods, B., Aguirre, E., Spector, A. E., & Orrell, M. (2012). Cognitive stimulation to improve cognitive functioning in people with dementia. *Cochrane Database Syst Rev*, 2, CD005562. doi: 10.1002/14651858.CD005562.pub2

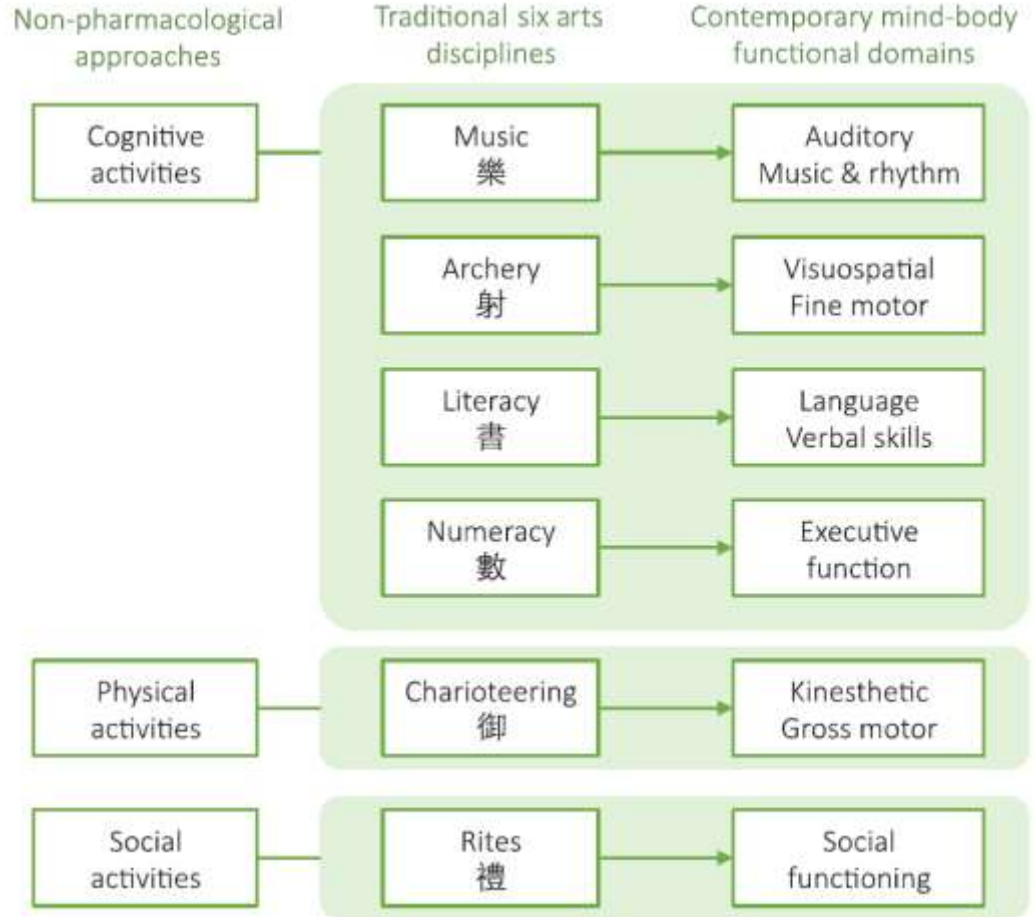
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Six Arts

- Confucian philosophy
- Perfection: ideal of education
- Correspond to modern-day mind-body domains
- Relevancy of Confucian values in Asian countries
- Ecological activities to deliver real-life benefits

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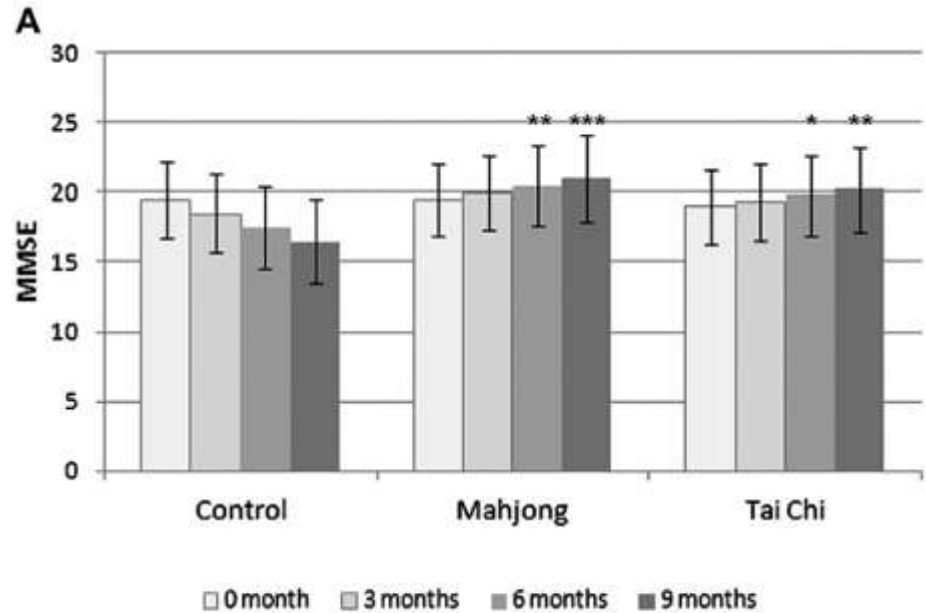


Principles

- Ecological validity
- Cultural appropriateness
- Stimulating and enjoyable
- Continued practice

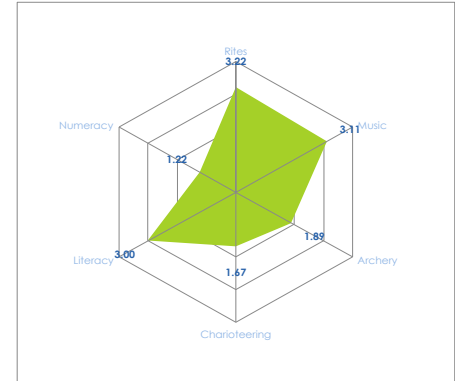
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Cheng, S. T., Chow, P. K., Song, Y., Yu, E. C. S., Chan, A. C. M., Lee, T. M. C., & Lam, J. H. M. (2012). Mental and physical activities delay cognitive decline in older persons with dementia. *American Journal of Geriatric Psychiatry*, 22, 63-74.



Six Arts: Examples

Activity Code	Key Domain	Level*	Theme	Time (mins)	Intensity					
					Rites	Music	Archery	Charioteering	Literacy	Numeracy
Ro01	Rites (social)	A1	Festival	15	4	2	4	1	4	1
Mo01	Music (auditory)	C2	Chinese opera	5	4	4	1	1	3	1
Ao01	Archery (visuospatial)	B2	Chinese crafts	25	4	1	4	1	4	3
Co01	Charioteering (kinesthetic)	C1	Chinese opera	5	2	3	1	4	1	1
Lo01	Literacy (language)	B1	Idioms	10	4	1	2	1	4	1
No01	Numeracy (executive)	A2	Local delicacy	15	3	1	2	2	3	4



*Minimum functioning level requirement for cognition (A: mild, B: mild-to-moderate, C: moderate) and physical frailty (1: low 2: high)

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Multidimensional Activities

Meaningful, cognitively stimulating, socially engaging leisure activities reduce dementia risks & MCI:

- Reading & writing
- Crossword puzzles
- Board/card games
- Playing musical instruments
- Dancing
- Physical activities
- Social networks size & frequency

Vergheze J, et al. NEJM 2003;348:2508-2516.

Vergheze J, et al. Neurology 2006;66:821-827.

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Zunzunegui MV, et al. J Gerontology B Psychol Sci Soc Sci 2003;58:S93-100.

Crooks VC, et al. Am J Public Health 2008;98:1221-1227

Glei DA, et al. Int J Epidemiol 2005;34:864-871.

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Trends in Neuroscience 2007;30(5):464-472

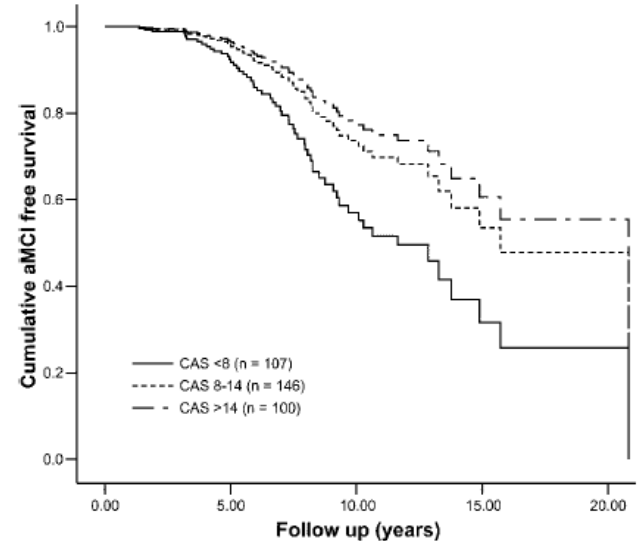


Figure. Kaplan-Meier curves for the cumulative risk of development of amnesic mild cognitive impairment (aMCI) according to tertiles on baseline Cognitive Activity Scale (CAS) scores at enrollment; adjusted for age, sex, education, and chronic illnesses.

Methods

Programme development

- 8 participants; 6 trial sessions

Pilot

- 4 partnering NGO units
- 59 recruited: 31 Six Arts, 28 controls

Intervention & control groups

- Intervention group: 24-weekly Six Arts
- Control group: monthly gatherings

Assessments

- Baseline & 6 months
- Cognition (MoCA), QoL (WHOQoL-BREF)
- Feedbacks (focus groups)

Time	Content
10 mins	Warm up with sharing and practicing brain health exercise to encourage participations and energize the group
45 mins	Main activities of the brain health training programme.
5 mins	Warp up with sharing to ensure the experience is enjoyable

Programme Adaptation

Rites

Intrapersonal and Interpersonal



- Making a personal album
- Sharing personal feelings/experience and
- leaving messages and blessings for other participants

Programme Adaptation

Music Music and Rhythm



- Singing old songs and sharing own experience or feeling
- Music jamming

Programme Adaptation

Archery 期

Visuospatial, Fine Motor and Attention



- Sharing the story of “The Giving Tree” (愛心樹)
- Collective drawing

Programme Adaptation

Charioteering

Kinesthetic and **Gross Motor**



- Group exercises

Programme Adaptation

Literacy Language and Verbal Skills



- Chinese calligraphy class

Programme Adaptation

Numeracy

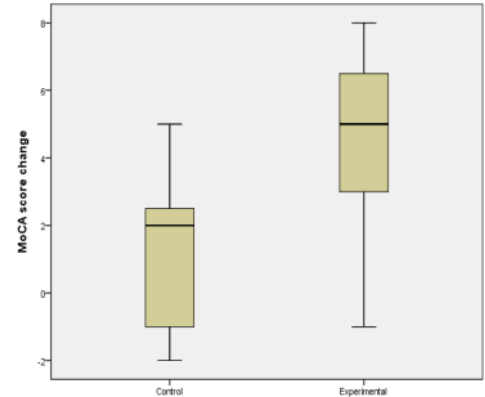
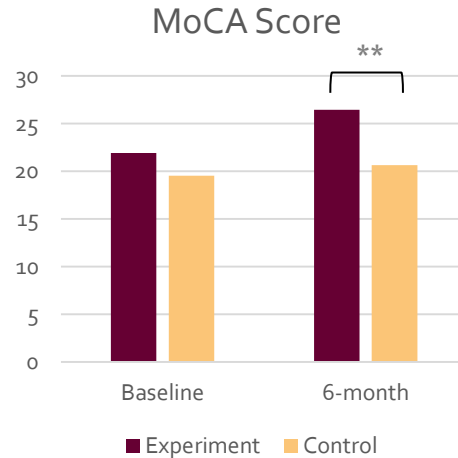
Executive Function, Logic and Mathematics



- Learning to play board games and sharing personal tips and techniques

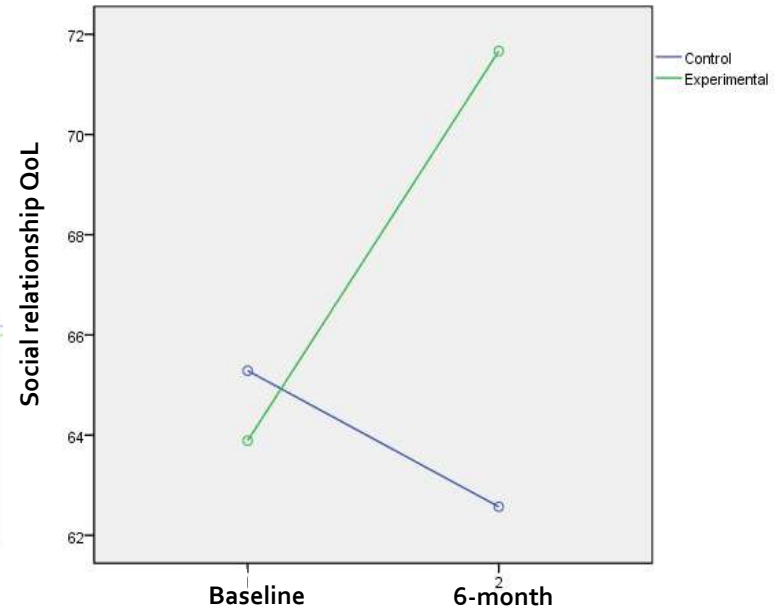
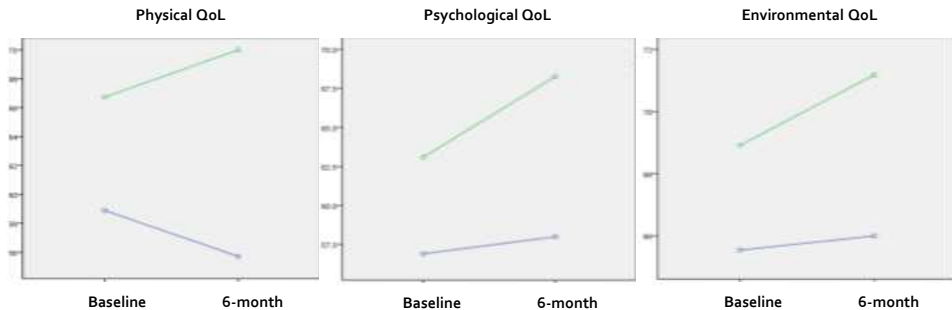
Results: Cognition

- No difference in baseline MoCA score (19.6 ± 4.6 vs 21.9 ± 2.5)
- Difference after 6 months (20.6 ± 5.5 vs 26.5 ± 3.0 , $p=0.01$)
- Between-group difference in the change in MoCA score was significant (Mann-Whitney U 101.0, $p=0.01$).



Results: QoL

- Difference in social relationship domain (-2.7 in control vs 7.8 in Six Arts, Mann-Whitney U 50.5, $p < 0.05$).
- Changes in other domains of quality of life statistically not significant



Further Explorations

- Improvement in cognitive performance associated with higher education level and younger age
- Participant engagement:
 - novelty and multitude of activities; care needed to match interest and ability to avoid “failure”. Trainer encouragement and patience is key
- Group dynamics:
 - a friendly member acted as a catalysis in fostering social interaction
- Session sequence:
 - Music and Archery can be introduced later as rapport and positive social interaction are essential. Rites can be the last theme to wrap up the learning experience

<i>r</i>	MoCA score change
Age	-0.58**
Education	0.46*

	Mean	Range	S.D.
Attendance rate	82.7%	41.7%-95.8%	11.5%
Satisfaction (1-5)	4.58	3.3-5.0	0.47

Conclusions

- Initial evidence of effectiveness in people with mild cognitive impairment or showing early signs of dementia on improving cognition and social QoL
- Feasible and well-received in this population, can be ran in community centres with very basic facilities.
- Further investigations needed to investigate the effects of age and education
- Programme fine-tuning: the level of challenges, more time should be allowed with some flexibility

Thank You

Acknowledgement

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