

Innovative models of care for older people with dementia

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Interventions for dementia

- Dementia is a major cause of disability in old age
- Drug treatment for dementia has small effects at its early and moderate stages
- Can non-pharmacological interventions prevent cognitive decline ?

Content

- Cognitive training in older people with memory complaints
- Cognitive stimulating activities in demented people
- Family caregiver training

Cognitive training in older people

- Hypothesis – older people have neuroplasticity
- Guided practice with a set of standardized tasks designed to train specific cognitive domains

A randomized controlled trial of cognitive training in older people with memory complaints

■ Participants

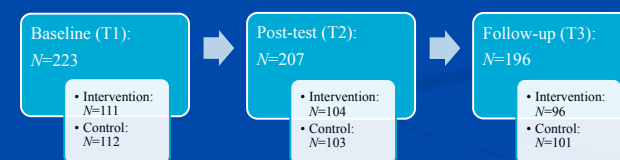
223 subjects were recruited from six different community centres in Hong Kong

■ Selection criteria

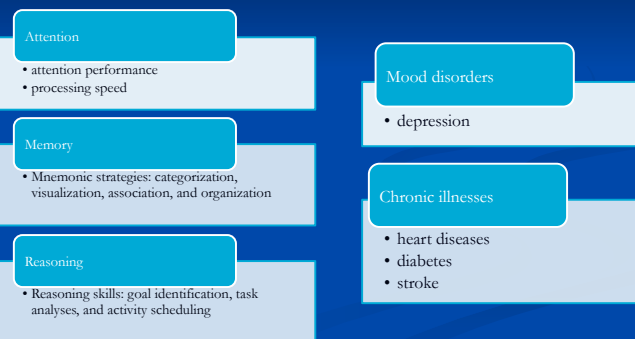
- aged 65+
- Memory symptom checklist $\geq 3/5$
- CMMSE score ≥ 20

Jockey Club Cadenza project

Randomization procedure



■ **Intervention** versus **Control**
 Cognitive training (1.5 hours, once/week, 12 weeks) versus Psycho-education on prevention of



Subjects' Characteristics

	Training (N=111)	Control (N=112)
Age (yr)	75.4	75.4
Female	87%	83%
No education	5%	13%
Primary or less	75%	64%
Secondary or more	19%	23%
MMSE (max 30)	25.6	25.7

Effects of Cognitive training and the interacting effect of education

Week 12

	Main Effect			Interaction Effect		
	F	p	η^2	F	p	η^2
Intervention	5.862	0.016	0.028	6.329	0.002	0.060
Education	1.203	0.302	0.012			

Week 52

	Main Effect			Interaction Effect		
	F	p	η^2	F	p	η^2
Intervention	0.393	0.531	0.002	3.294	0.039	0.034
Education	2.393	0.094	0.025			

Outcomes in cognitive domains in those with primary education or less

	Week	Intervention	Control
Conceptualization	12	+ 2.1*	-0.2
	52	+ 2.1*	0.8
Memory	12	+ 0.6*	-0.0
	52	+ 0.3*	-0.4

No significant difference in Attention; Initiation; Construction

Summary of findings

- Structured Cognitive training improved reasoning and memory in older people with memory complaints
- The effect was more significant in the less well educated

Cognitive decline in Dementia is variable

Reasons for Cognitive decline in demented people

- Underlying brain disease
- Malignant social psychology
- Physical inactivity
- Under-nutrition
- Suboptimal chronic disease management
- Intercurrent illness
- Hospitalization
- Institutionalization

General measures

- Physical activity
- Maintenance of weight
- Fruit and vegetables
- Maintenance of social activities
- Supervision/ Company
- Home safety –fall and fracture, getting lost
- Monitoring of drug compliance
- Cataract extraction and hearing aid
- Good Sleep hygiene

Cognitive stimulation activities

- Target cognitive and social function
- Social element – group, family caregiver
- NOT practice on specific cognitive modality
- Implicit learning
- Verbal skill - word association, object categorization
- Reality orientation

Randomized trial of cognitive stimulating activities in demented people

- Demented people in day centres or residential homes in London
- MMSE 10-24
- 23 centres, cluster randomization
- 14 sessions
 - Reality orientation board
 - Reminiscence
 - Multisensory stimulation
 - Implicit learning

Spector A 2010

Subjects

	CST (N=115)	Control (N=86)
Age (yr)	85.7	84.7
Female (%)	83.0	72.0
MMSE (max 30)	14.2	14.8
ADAS Cog (max 88)	27.4	26.4

Result

	CST	Control	P value
Memory	+ 0.5	+ 0.1	0.59
Language	+ 0.5*	-0.3	0.01
Executive function	+ 0.2	0.0	0.32
QOL-AD	+ 1.3*	-0.8	0.01

Effect of CST was comparable to Drug (D) on Dementia progression (MMSE)

	CST+D (N= 20)	D only (N=30)	CST only (N=18)	None (N=18)
Baseline	23.0	21.2	19.4	19.4
Year One	24.5	17.8	21.9	13.1
Year Two	21.6	13.9	20.1	8.6

Requena C 2006

Dementia Day Care



- Group & Individualized activities
- Case manager
- One stop services



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Outcome of a cohort of 23 new clients who stayed for 12 months or more

	Baseline	Month 6	Month 12
Burden (max. 88)	31.5	NA	25.9*
MMSE (Max. 30)	13.6	13.8	12.9
QOL (max. 100)	75.5	69.7	72.3
Behaviour (max 203)	40.5	45.8	47.1



Family caregiver

Family Caregiver Stress

- Most family caregivers of dementia are stressed
- Caring and communication skills often lacking
- At risk of depression, anxiety, poor sleep, hospitalization and mortality
- Associated with elder abuse and behavioral problems of the demented people
- Predicts nursing home placement

Interventions

- Support group
- Training
 - Psycho-education
 - Management of BPSD
- Counseling
 - Cognitive behavioral therapy
 - Family therapy

A randomized trial of Caregiver training in HK

- Day care centre setting
- Case manager visit/contact once in two weeks
- Family education/support group (one two-hour session per week for 12 weeks)
- 5 phases
 - Orientation to dementia care (1)
 - Educational workshop on dementia care (3)
 - Family role and strength rebuilding (6)
 - Community support resource (1)
 - Review (1)

Chien WT Psychiatric services 2008

Results

	Interv. (N=44)		Control (N=44)	
	Month 0	Month 6	Month 0	Month 6
Burden (max 96)	68.1	56.7*	67.8	63.0
QOL (max 144)	64.9	75.1*	67.1	69.8
MMSE (max 30)	17.5	18.6	17.3	18.5
Behaviour (Max 144)	81.2	68.1*	83.8	84.8
Days/month (institution)	13.2	11.1*	14.2	16.9

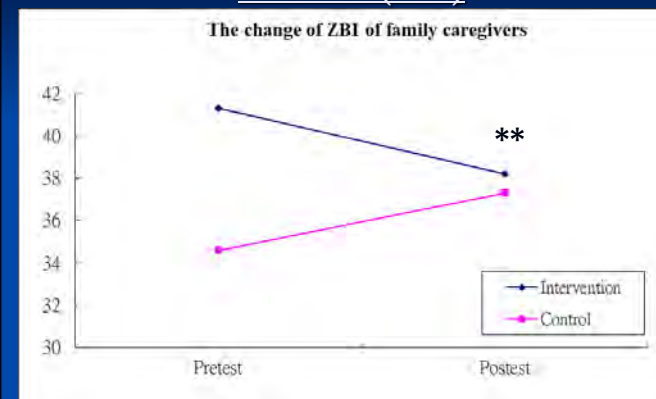
Telephone delivered psycho-educative intervention

- A 12-session psycho-educative program by trained social workers
- One session once a week for 3 months
- Each phone call lasts for around 30-45minutes

Content

No	Theme	Content
1	T	Identify problems and seeking help
2	T	Person center care in understanding the illness (Dementia)
3	M	Communication skills with dementia
4	M	Cognitive training and social activities' planning (Daily schedule planning)
5	M	Understanding of BPSD
6	M	Management of BPSD
7	S	Emotional support (Grief and bereavement)
8	S	Emotional support (Pressure release)
9	R	Environmental design and technological support
10	R	Introduction of community resource and utilization
11	A	Financial Planning and ethical consideration
12	A	Future planning (Long term care concern)

Change of Caregiver Burden Interview(ZBI)



Conclusion

- Cognitive training in older people
 - improve specific domains (esp. in reasoning)
 - may be useful in very early dementia
- Cognitive stimulation activities
 - Slow cognitive decline
- Dementia day care
 - Reduces caregiver burden
 - Slows cognitive decline

Conclusions

- Family caregiver training and counseling reduce caregiver stress and reduce behavioral problems in the demented people
- Key components include
 - Psycho-education
 - Management of behavioral problems
 - Stress reducing techniques
 - Family support
- Small group, Telephone, ? Internet

