Preventing Excess Disability in Activities of Daily Living Performance among Nursing Home Elders in Taiwan

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Background

- Since 1993, Taiwan reached the World Health Organization's (WHO) benchmark for defining an aging population
- Traditionally, Chinese elders were taken care of by oldest son and daughter-in-law, un-married son or daughter,
  - More career women and nuclear families (husband-wife-children)
    - The needs for healthcare services for elderly are increasing
    - The burden of caring for frail elders presents a formidable challenge to families, healthcare providers, the community and the Taiwanese government

- A continuum of long-term healthcare services such as nursing homes are developing
  - Nursing homes provide services to elders with chronic illness, discharged from hospital and need continuous skill-nursing care services
    - Nursing home elders in Taiwan are filled with frail chronically ill elderly people
      - They tend to have physical, cognitive, and/or sensory capabilities deficiencies

- Unfortunately,
  - No well-established training programs for long-term health professionals
  - Nurses with higher education do not want to work in long-tem care settings such as nursing homes
  - Nursing assistance with limited trainings
  - Foreign labors are working in long-term care settings

- Excess disability become an important issues for Chinese elders in nursing homes
  - Excess disability occurs when a person's physical incapabilities are greater than is warranted by actual physical impairment
  - It is a loss of function that does not result from physical illness or cerebral pathology
  - It is unnecessary disabilities and can be prevented and remediated

- Causes of excess disability among nursing home elders
  - Physical illness
  - Depression
  - Medications
  - Self-selected disuse
  - Staff caregiver support of dependency
- Consequences of excess disability
  - Increased morbidity and mortality
  - Increased “true” disability
  - Increased cost
  - Decreased quality of life

- Excess disability among residents of nursing homes can be prevented if staff is taught to recognize excess disability and assist residents to perform self-care independently.
- No study has tested a theory-based program delivered by staff aimed at reducing disability progression in activities of daily living.

Purpose

- To test a theory-based intervention program aimed at reducing disability progression in activities of daily living, including feeding, dressing, grooming, and washing hands and face among nursing home elders in Taiwan.

Research Design

- Experimental, two-group, longitudinal research design
  - Experimental group
    - The Self-Care Self-Efficacy Enhancement Program
  - Comparison group
    - Care as usual

Sample selection criteria

- 1) age 65 years or older
- 2) bed-bound less than six months
- 3) currently rely on staff caregivers to perform one or more ADL
- 4) able to speak Mandarin or Taiwanese

Instrument

- The Refined ADL Assessment Scale (RADL)
- The tasks are feeding, washing, grooming, dressing, and toileting.
  - To prevent disturbing elders' privacy, toileting task in the RADL was not collected in this study.
- Each task was broken down into 2 -3 small tasks. Each small task was broken down into a sequence of steps needed to complete an activity. Depending on the task, the number of steps ranged from 5 to 21.
- The Observer rated each step across a continuum from unassisted (6), to verbal prompt (5), nonverbal prompt (4), physical guidance (3), full assistance (2), full assist not attempted (1), and not associated (N/A, 0).

Tasks	Sub-tasks	scores
Feeding		0—126
	Using a spoon	0—54
	Drinking from a glass or cup	0—42
	Using a napkin	0—30
Washing		0—204
	Face-washing	0—126
	Hand-washing	0—78
Grooming		0—174
	Teeth(dentures)-brushing	0—114
	Hair combing	0—60
Dressing		0—150
	Putting on pants	0—66
	Putting on a shirt or blouse	0—48
	Putting on shoes	0—36

Data collection

- ***Methods***： observation, face-to-face interviews, chart review
- ***Phases:***
- 1) screening potential subjects phase,
- 2) baseline data (time 1) collection phase,
- 3) intervention phase,
- 4) post-intervention data collection phase [6 weeks (time 2), 3 months (time 3) and 6 months (time 4)]

Interventions

- The training program for staff was based in part on the SCSEEP developed by the principle investigator (PI).
- Topics of the intervention included:
  - 1) risks of excess disability among nursing home elders,
  - 2) importance of conformity with nature,
  - 3) strategies used in the self-care self-efficacy enhancement program for nursing home elders.
- However, staffs in the comparison group excluded from the third topic (strategies used in the self-care self-efficacy enhancement program for nursing home elders).

Strategies of SCSEEP

- *Performance accomplishment*
  - Staff allowed subjects to perform ADL independently.
  - Staff provided elders positive feedback if they improved in one or more ADL tasks.
    - For example, the staff might say; “Grandma, you can eat your meal without any help. That is great.”

- *Vicarious experiences*
  - Observing and discussing another person's success in enhancing a self-care activity with elders
    - For example, the staff might say; "she (a nursing home resident) was admitted here (a nursing home) because of stroke and paralysis on the right side of his body, just like you. She could not eat and walk. Now, she can walk via walker assistance. She also can eat by herself. So, if she can do it, so do you."

- *Verbal persuasion*
  - Proving verbal encouragement for efforts to self-care activities to elders
    - For example, the staff might say; “Grandpa, I am going to let you wash your face by yourself. You know that your left hand side does not paralyze. You have attended a rehabilitation program for couple months. You also practice face washing via left hand several times. You do face self-washing very well. Now, I am going to let you washing your face. I know you can do it.”

Data analysis

- The statistical software package that was used is SPSS 13.0 for Windows.
- An alpha of .05 was set as the level of significant.

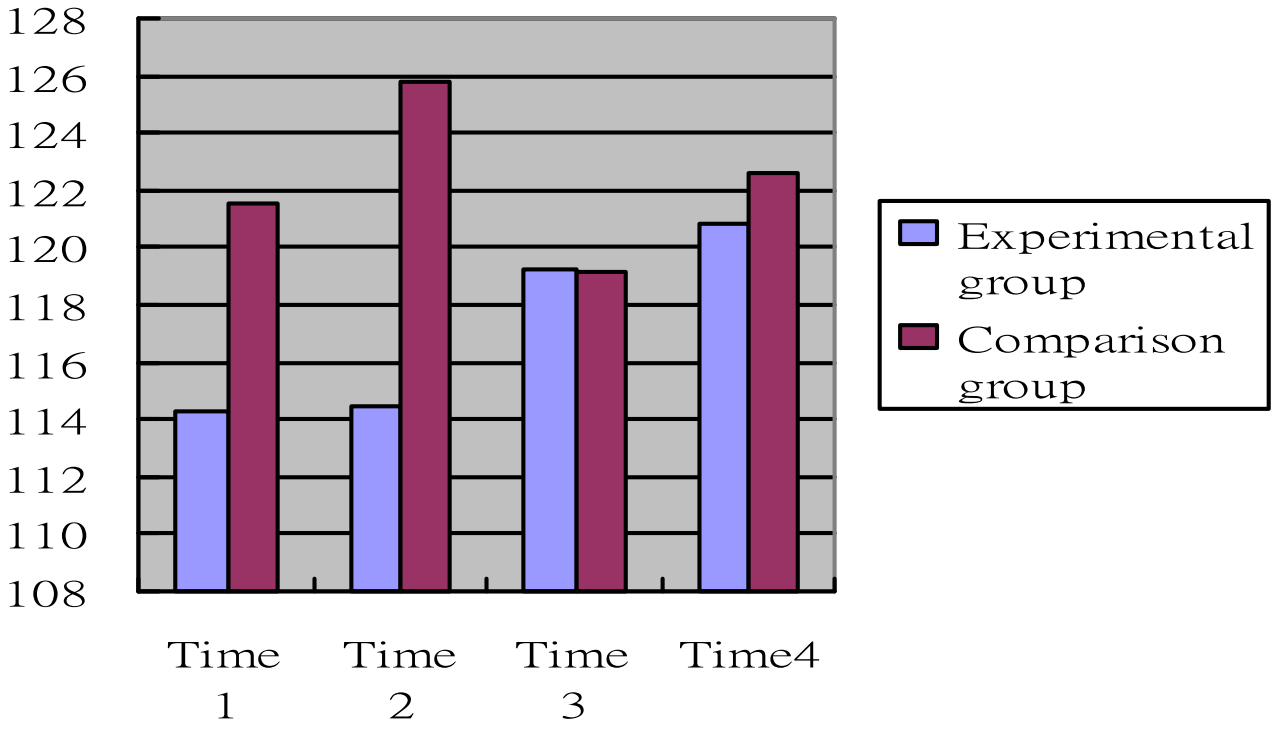
Results

Demographic information

Variables	Mean (SD) / Frequency (%)		*t* test
	Experimental group	Comparison group	
MMSE	26.80 (2.38)	25.391(2.19)	1.932
GDS-SF	1.78 (1.80)	2.35(2.31)	1.382
Age	80.37 (7.15)	80.24(7.82)	1.257
Period of living in nursing home (months)	18.47 (15.42)	25.79 (20.19)	2.069*
A total number of chronic diseases or health problems	2.27 (1.09)	1.83 (0.93)	2.186*
A total number of prescribed medications	5.15 (2.43)	5.15(2.93)	0.007
Levels of feeding performance	114.22 (29.74)	121.50 (18.03)	1.513
Levels of washing performance	150.93 (51.10)	159.91 (48.34)	0.902
Levels of grooming performance	115.33 (51.81)	126.35 (51.70)	1.066
Levels of dressing performance	87.89 (39.01)	96.37 (36.42)	1.121
Levels of ADL performance	468.36 (142.92)	504.13 (125.90)	1.322

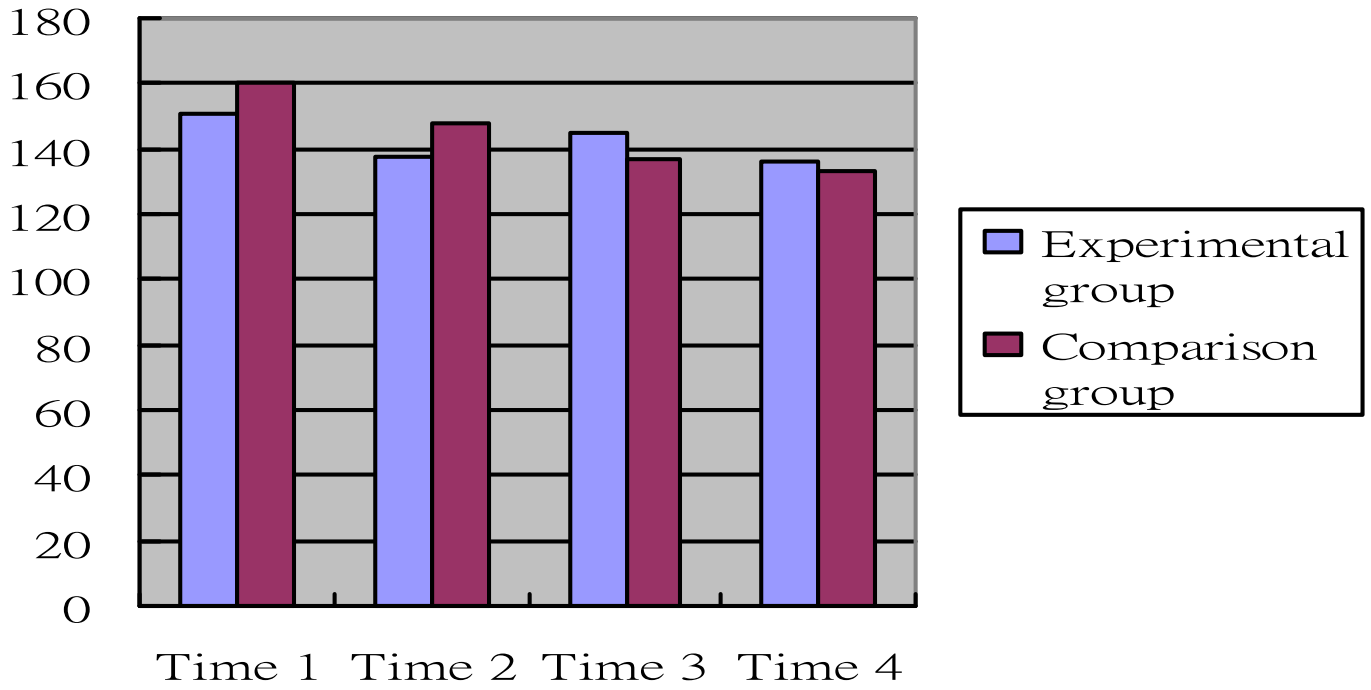
Variables	Mean (SD) / Frequency (%)		χ^2 value
	Experimental group	Comparison group	
Gender			3.644
Female	14(25.45%)	20(43.4%)	
Male	41 (74.55%)	26 (56.6%)	
Martial status			15.690**
Single	6(10.9%)	1 (2.2%)	
Married	26 (47.3%)	8 (17.4%)	
Widow	23 (41.8%)	37 (80.4%)	
Reasons for admission			1.686
Living alone	4 (7%)	1(2.2%)	
Poor health	4 (7%)	5(10.9%)	
Family members unable to care	47 (86%)	40 (86.9%)	
Financial status			4.635
Pension	12 (21.81%)	3 (6.5%)	
Supported by adult children	42 (76.4%)	42 (91.3%)	
Supported by others (friends/ relatives/ government)	1 (1.81%)	1 (2.2%)	2.270
Educational			
No formal education	19 (34.5%)	20 (43.4%)	
<=6 years	18 32.75%)	9 (19.6%)	
> 6 years	18 (32.75%)	17(37%)	

- Figure 1. Changes in levels of feeding performance among the four measurements



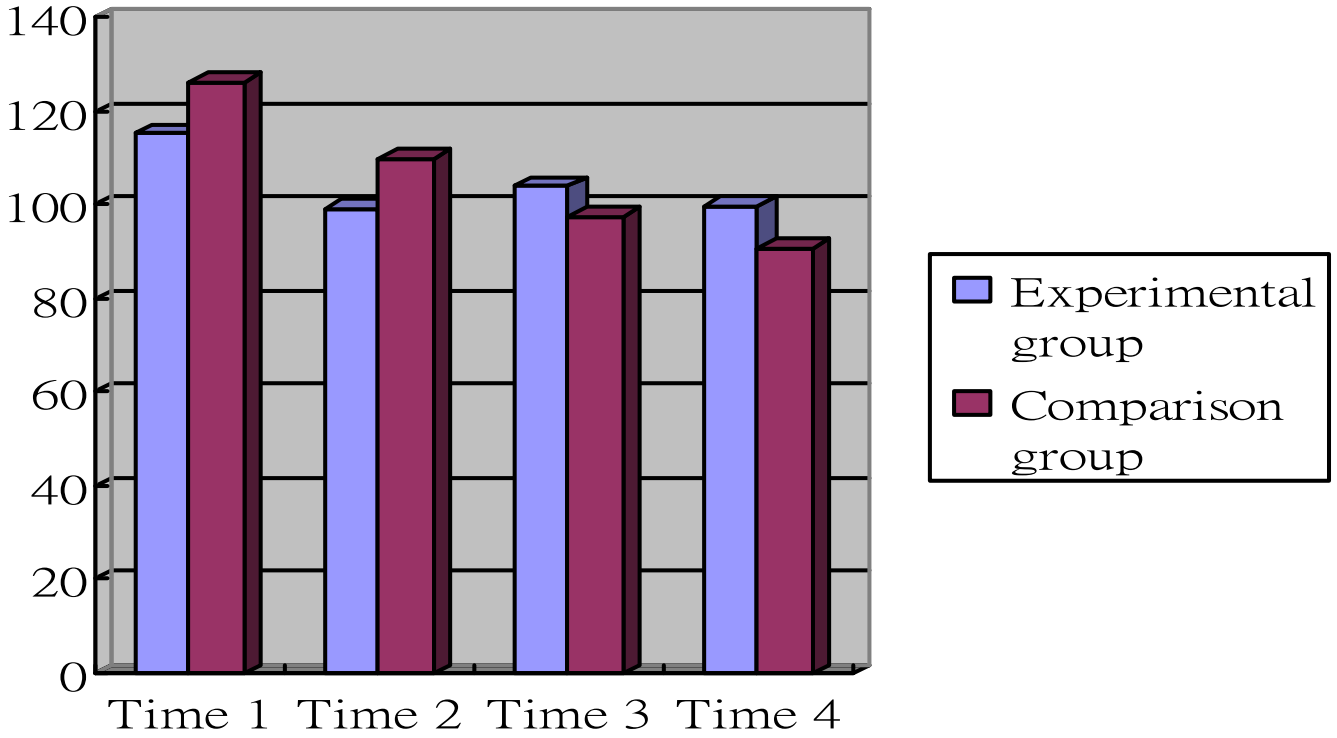
In the experimental group, F = 0.953, p = 0.416
In the comparison group, F = 1.363, p = 0.256

- Figure 2. Changes in levels of washing performance among the four measurements



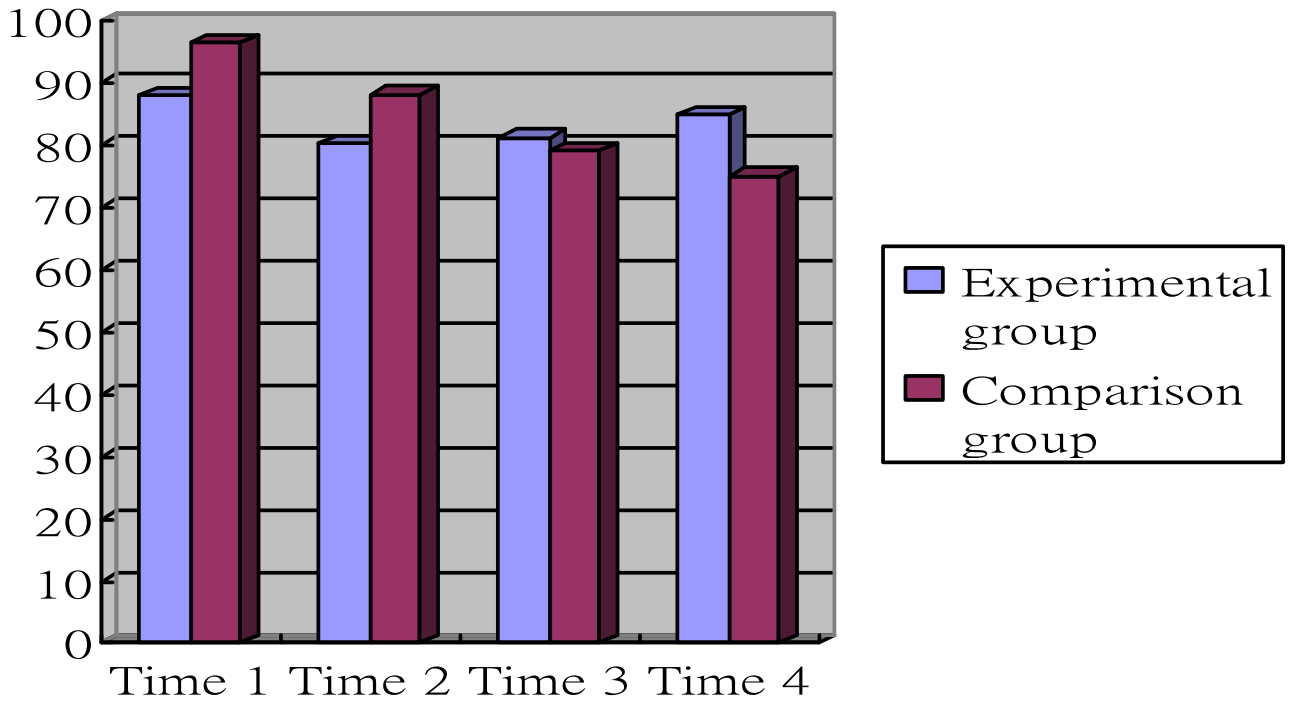
In the experimental group, F = 1.039, p = 0.376
In the comparison group, F = 3.236, p = 0.024

- Figure 3. Changes in levels of grooming performance among the four measurements



In the experimental group, F = 1.236, p = 0.297
In the comparison group, F = 4.845, p = 0.003

- Figure 4. Changes in levels of dressing performance among the four measurements



In the experimental group, F = 0.475, p = 0.700
In the comparison group, F = 3.701, p = 0.013

Conclusion & Recommendations

- This study demonstrated that SCSEEP was valuable for nursing home staff to improve activities of daily living among Taiwanese nursing home elders.
- Staff caregivers with a greatly needed theory-based caring model designed to reverse excess disability among Taiwanese nursing home elders and reduce the progression of disability in activities of daily living.

Thank you for your listening