



The preliminary findings of brief telephone counseling of main caregivers of dementia in daycare center in northern Taiwan

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This is the hospital where I work: Taipei City Hospital Yangming Branch



This is the unit of this study: Day care center also named Deyizhai attached to the Taipei City Hospital Yangming Branch



Orientation about Deyizhai day care center



Recreation Room



Eating and activity area



Rest area



Nurses station



Introduction of Deyizhai day care center



- ◆ Taiwan's nationwide survey on the prevalence of dementia among community elders over 65 years old is 7.99%. Further analysis shows that the prevalence rate of dementia is 9.36% in women, which is higher than 6.35% in men. (Ministry of Health and Welfare, 2023).
- ◆ According to Taiwan's statistics at the end of July 2024, the proportion of **Taiwan's older adults population over 65 years old was 18.80%**, and it is now an aged society (National Health Research Institutes, 2024). The Department of Neurology and Social Work of YangMing branch established the Day-care Center in **April 2013**.
- ◆ Through the activities designed by the Day-care Center, we can establish a regular life, **reduce the incidence of behavioral and Psychological Symptoms of Dementia (BPSD)** of the older adults with dementia, **maintain their cognitive functions**, and **delay the progression of the disease**.
- ◆ Attending day-care also seems to be associated with a higher quality of life for the persons with cognitive impairment (Waller et al., 2017; Rokstad et al., 2017; Donath et al., 2019).



Outlines



Introduction



Objective



Methods



Results



Conclusions



Introduction

- ◆ People who take care of a relative, who suffers from a long lasting illness such as dementia, are facing a challenge that causes a strong, continuous and stressful situation.
- ◆ Caregivers play an important role in supporting disadvantaged older adults throughout dementia(Zahed et al., 2020). Their work is not easy and is full of emotional intensity and physical exhaustion. As a result the relatives caring for such patients are characterized as “**the hidden victims of the disease**” (Pitsikali et al., 2015).
- ◆ The Kingston Caregiver Stress Scale (KCSS) was **designed to measure stress in caregivers of people with dementia**. The Kingston Caregiver Stress Scale (KCSS) including 10 questions of the scale can be divided (based on statistical analysis of the authors) into 3 categories: **“Caregiving issues”, “Family issues” and “Financial issues”** (Sadak et al., 2017; Pitsikali et al., 2015; Iacob et al., 2021).
- ◆ The 10 questions of the questionnaire measure the caregiver stress on a Likert scale from 1 to 5, where 1: no stress and 5: extreme stress. Total scores are 50 points (Sadak et al., 2017; Pitsikali et al., 2015; Iacob et al., 2021).
- ◆ Our unit is a day care center for people with dementia. A total of 30 older adults with mild to severe dementia were admitted in 2024, and 80% of main caregivers were family members.
- ◆ We found that **the average total score of 32-point was moderate stress in our center**. Main caregivers do not have much time for face-to-face consultations.



Objective

This study aims to investigate effectiveness of care stress for main caregivers of dementia in day care centers **by brief telephone consultation.**





Methods

- ✦ This **quasi-experimental design** study period is from March 2023 to March 2024.
- ✦ Inclusion criteria included :

- (1) The **caregivers of patients who have been diagnosed with mild to moderate dementia.**
Mild to moderate dementia identified:
Mini-Mental State Examination (MMSE) of 20 points or more and CDR 0.5~less than 2.
- (2) Participants are **willing to cooperate with the study.**
- (3) Caregivers **who had a total score KCSS greater than 30-point** (moderate stress).





Methods



Step 1 The case manager must need to take telephone counseling related training courses which take a total of 8 hours.



T1 : 6th months



Step 2 The full-time case manager in the center conducted a brief telephone consultation 30 minutes every 2 weeks to maintain 24 weeks, and then the caregiver stress assessment will be conducted after 6months.



Step 3 The telephone consultation context including empowerment caregivers and teach them how to care dementia patient and give them some resources to looking for help.



T2 : 12th months



Step 4 After 6 months, brief telephone consultation from the study **were stopped**. We hope to analyze the effectiveness of telephone consultation in empowering family members. We use KCSS self-report scale to measure main caregiver stress at 6th months and 12th months.

Fig. 1 Intervention of brief telephone counseling of main caregivers of dementia flowchart



Methods

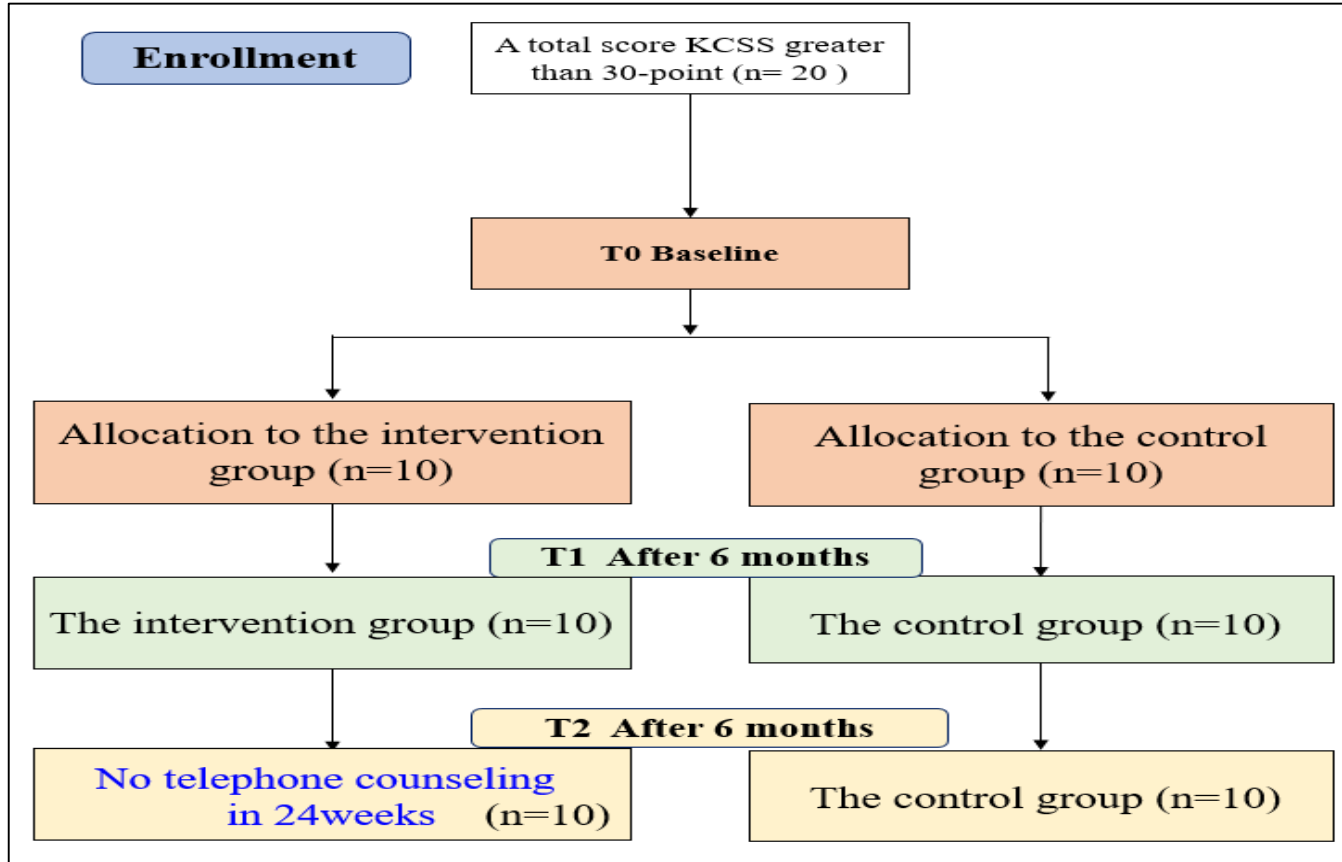


Fig. 2 Consort flowchart



Study Assessment Tool



Kingston Caregiver Stress Scale (KCSS)

Patient Name: _____ Case #: _____

Caregiver: _____ Relation to Patient _____ Date: _____

Lives in: Community ___ Long Term Care Facility ___ Other ___



Some people report feelings of stress surrounding certain aspects of care giving. To what extent, if any, do these apply to you in your role of care giving to your spouse or relative? Using a 5 point rating scale, where 1 equals no stress and 5 equals extreme stress, indicate the extent of the stress or frustration you feel surrounding the following issues.

1	2	3	4	5
Feeling NO Stress	Some Stress	Moderate Stress	A lot of Stress	Extreme Stress
<i>(Coping fine, no problems)</i>				
<i>(Feeling at "end of rope", health at risk)</i>				

CARE GIVING ISSUES					
TO WHAT EXTENT...					
1	Are you having feelings of being overwhelmed, over worked, and/or over burdened?	1	2	3	4 5
2	Has there been a change in your relationship with your spouse/relative?	1	2	3	4 5
3	Have you noticed any changes in your social life?	1	2	3	4 5
4	Are you having any conflicts with your previous daily commitments (work/volunteering)?	1	2	3	4 5
5	Do you have feelings of being confined or trapped by the responsibilities or demands of care giving?	1	2	3	4 5
6	Do you ever have feelings related to a lack of confidence in your ability to provide care?	1	2	3	4 5
7	Do you have concerns regarding the future care needs of your spouse/relative?	1	2	3	4 5

FAMILY ISSUES					
TO WHAT EXTENT...					
8	Are you having any conflicts within your family over care decisions?	1	2	3	4 5
9	Are you having any conflicts within your family over the amount of support you are receiving in providing care?	1	2	3	4 5

FINANCIAL ISSUES					
TO WHAT EXTENT...					
10	Are you having any financial difficulties associated with care giving?	1	2	3	4 5

Kingston Caregiver Stress Scale (KCSS). (Hopkins & Kilik, 2013). The 10 questions of the questionnaire measure the caregiver stress on a Likert scale from 1 to 5, where

1= Feeling no stress
 2= Some stress
 3= Moderate stress
 4= A lot of stress
 5= Extreme stress





Study Assessment Tool

◆ Kingston Caregiver Stress Scale (KCSS) Reliability Analysis

In order to examine the reliability of the questionnaire we used the Cronbach's Alpha (α) index. This analysis showed satisfactory reliability of the tool ($\alpha = 0.85$).

◆ Kingston Caregiver Stress Scale (KCSS) Validity Analysis

Regarding the validity of the scale, we conducted a principal component analysis. The KMO index ($0.827 > 0.5$)

In order to examine the construct validity of the KCSS we estimated the intercorrelation of the KCSS subscales and the KCSS total score. The analysis shown proves **that the two subscales have a positive correlation** between them as well as with the total score of the scale. ($r = 0.486 - 0.949, p < 0.05$).

Ref: Pitsikali, A., Galanakis, M., Varvogli, L., & Darviri, C. (2015). Kingston Caregiver Stress Scale (KCSS) greek validation on dementia caregiver sample. *Psychology*, 6(09), 1180.





Data Analysis

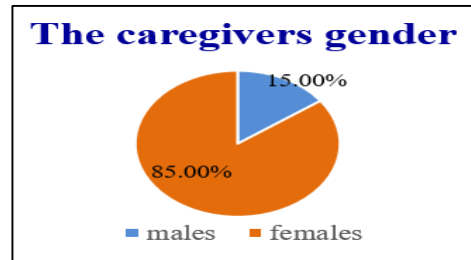
- ◆ All analyses were performed using SPSS (version 23) statistical software package (IBM SPSS Inc., USA). Data were summarized as the mean and standard deviation for continuous variables and as proportions for categorical variables. The *t*-tests and chi-square tests were used to analyze group differences.
- ◆ In this study, the experimental group and the control group repeatedly measured data more than three times (T0, T1, T2), and GEE was used to perform multivariate analysis on the repeated measurement data.
- ◆ Two GEE models were analyzed in this study. In **GEE model 1**, the main effects of the group and the time were identified. In **GEE model 2**, interaction terms (group × time) as study covariates were added to further test the brief telephone consultation between the groups at different time points.



Results

Characteristics of participants :

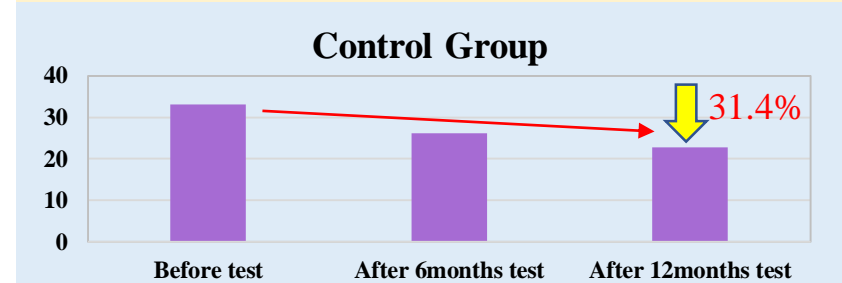
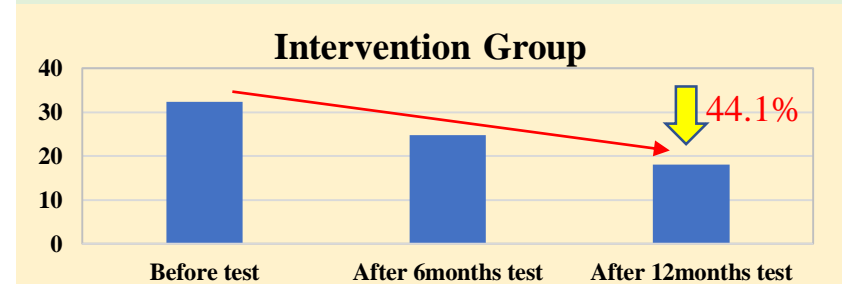
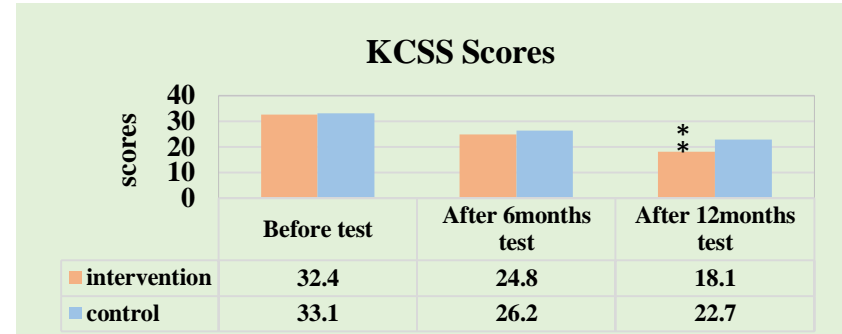
- ✦ A total of 20 cases and their caregivers (n=20) were enrolled.
- ✦ The average age of caregivers was 63.4 ± 8.4 years old. There were 3 males (15.0%) and 17 females (85.0%).
- ✦ As to the type of dementia of the patient, 70% had Alzheimer disease, 20% had vascular dementia and 10% of our sample had another type of dementia.
- ✦ As for the marital status, 70% of our participants were married, 30% single.
- ✦ The 80% of the participants were living in the same house with the patient, 20% in the same building.
- ✦ The 30% of the caregivers were looking after the patient for two year, 10% for three years, 20% for fine years and 40% for over six years.
- ✦ The 60% of the participants was the sole responsible for the care, while the rest 40% was sharing the care with others.





Results

- ✚ And main caregivers conscious **care ability can be strengthened** (95% CI 1.23 to 2.18) within 6 months.
- ✚ After with no telephone counseling intervention follow-up for 24 weeks the KCSS score still maintain in mild stress was total 18-point ($p = 0.01$).
- ✚ The intervention of telephone consultation can reduce the stress score by 7.6 points in 6 months after the intervention. Although there is no intervention of telephone consultation after that, the continuous follow-up for 12 months shows that the care stress can be reduced by 14.3 points, a decrease of 44.1%.





Results

Interventional telephone consultation is 5.5 times more likely to reduce the stress of caregivers than the participate without telephone consultation.

Table 1 Comparisons of the telephone consultation among the groups at different times.

	B	Standard Error (SE)	95% Wald CI		Sig.
			lower limit	upper limit	
(intercept)	32.900	.9534	31.031	34.769	0.000
[Time=3.00] 12 months	-10.200	.8222	-11.811	-8.589	0.000
[Time=2.00] 6months	-6.700	.6641	-8.002	-5.398	0.000
[Time=1.00] pre-test	0 ^a	.	.	.	.
[Group 1 =Intervention]	-.300	1.3539	-2.954	2.354	0.825
[Group 0 =Control]	0 ^a	.	.	.	.
[Time=3.00] * [Group=1.00]	-5.500	1.3918	-8.228	-2.772	0.000
[Time=3.00] * [Group=.00]	0 ^a	.	.	.	.
[Time=2.00] * [Group=1.00]	-1.100	.7727	-2.614	.414	0.155
[Time=2.00] * [Group=.00]	0 ^a	.	.	.	.
[Time=1.00] * [Group=1.00]	0 ^a	.	.	.	.
[Time=1.00] * [Group=.00]	0 ^a	.	.	.	.

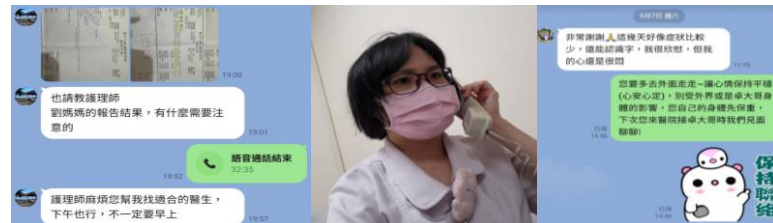
** Note: Group 0 =Control, Group 1 =Intervention

GEE procedure



Implications for practice

- ✚ According to the study results show that both the intervention group and the control group can reduce the stress of caregivers. It can be known that patients coming to the daycare center can effectively reduce the stress of caregivers. **If combined with interventional telephone consultation, it will be more effective in reducing the stress of caregivers.**
- ✚ Some caregivers said that telephone consultation can also effectively **reduce their depression and improve their mood condition.**
- ✚ The brief telephone counseling for family caregivers is applicable via telephone and has shown promising short and long-term effects.
- ✚ Therefore, it is suggested that day care center may allow brief telephone counseling by trained case managers and **provide empowerment skills** for caregivers to help them how to take care of the dementia.





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*Thank you for your time
and attention*

