



Original Article

Effects of a Family Resilience Enhancement Program (FREP) on Family Adaptation to Elderly with Dementia in South Korea

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SUMMARY

Background: The aim of this study was to develop a family resilience enhancement program (FREP) based on a previously devised resilience model of family stress, adjustment, and adaptation, and to validate its effects.

Methods: The FREP comprised 8 sessions using group education methods to enhance family hardiness, sense of coherence, problem-solving communication, crisis coping strategies, social support, and adaptation. Participants were family members of elderly with dementia who were recruited from two daycare centers. Each group had 20 participants.

Results: The experimental group showed a significant improvement in family hardiness, family sense of coherence, problem-solving communication, and family adaptation.

Conclusion: Given these results, we hope a more effective, integrated program enhancing the family resilience of elderly with dementia will be developed.

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1. Introduction

According to the National Dementia Epidemiological Survey in South Korea 2012, the prevalence of dementia among the elderly was 9.18%. Furthermore, the number of individuals with dementia is predicted to double every 20 years reaching 840,000 in 2020 and 1,270,000 in 2030. The dementia incidence rate also increases with age. Accordingly, the growth rate of elderly with dementia is noticeably higher, with the number of elderly with dementia having increased 2.96 times between 2005 and 2015.¹

Typically, elderly with dementia are dependent on family members for everyday life activities.² Family members who care for elderly with dementia tend to experience severe stress and pressure and caring for elderly in the long term can negatively impact various aspects of their lives, including their health.³ Their physical and psychological well-being tend to be worse than that of family members of elderly with other chronic diseases; therefore, they often experience more severe depression and anxiety.^{4,5} Moreover, these can cause considerable conflict among family members and lead to changes in family dynamics and other crises. Hence, previous studies on the families of elderly with dementia focused on the stress and pressure experienced by family members.^{6,7} They have also emphasized a need for interventional studies aimed at relieving family members' stress and ensuring their positive adaptation.

Family resilience is a relatively new concept that entails the ability to adapt to stress and recover from difficult life situations and

is regarded as an attribute enabling family members to positively adapt to crises.^{8,9} It suggests that families do not merely focus on their negative experiences in stressful situations, but also seek to reinforce their strength as a family, thus leading to positive family adaptation. Through family resilience, families can reduce their stress during a crisis and overcome hardships, and thus become stronger as a unit and obtain more resources.¹⁰ The major factors related to family resilience are family hardiness, sense of coherence, family problem-solving communication, coping strategy for crisis, and adaptation.^{9–12}

A meta-analysis of 127 family intervention studies of elderly with dementia revealed that family adaptation could improve subjective burden, depression, subjective well-being, and self-efficacy.¹³ Among these, psychoeducational interventions that encouraged families' active participation were the most effective, whereas interventions that relied on the delivery of information had limited effects. However, there have been few studies on the efficacy of family resilience program for family members of elderly with dementia. Of the existing studies in South Korea, a family resilience program conducted with family members of elderly with dementia led to significant improvements in family resilience.⁵ Another showed that a family resilience program targeting the main caregivers of elderly with dementia was effective in improving family resilience and adaptation.¹⁴ Family members of elderly with dementia experience stress and distress, as they adjust to their new caregiving roles. In this crisis situation, family resilience leads to family adaptation and subsequently to positive family well-being.^{5,9}

We developed a family resilience enhancement program (FREP) based on the resilience model of family stress, adjustment, and adaptation by McCubbin and McCubbin⁹ and validated its effects

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(Fig. 1). Our hypotheses were that family members who participated in the FREP would show significant improvement in: 1. family hardiness, 2. family sense of coherence, 3. family problem-solving communication, 4. family crisis-coping strategies, 5. social support, and 6. family adaptation compared to the family members who received traditional education.

2. Materials and methods

2.1. Study design

This study utilized a nonequivalent control group pretest-posttest design.

2.2. Study participants

Study participants were family members of elderly with dementia who were registered at a daycare center. The inclusion criteria were being 1) aged 19–75 years and 2) able to complete and understand the questionnaires; there were no exclusion criteria. We recruited the family members who were living with and/or were primary caregivers for elderly with dementia. To avoid any possible contamination, participants were separately recruited from two different daycare centers conveniently. Both centers were running a general education program for family members of elderly with dementia. This study used G*Power 3.1.¹⁵ to calculate the sample size required for statistical analysis ($N = 17$, based on effect size of $d = 0.9$, significance level $\alpha = .05$, and test power $(1-\beta) = .80$). There were 20 participants in the experimental group (EG) and 20 in the control group (CG).

2.3. Study tools

2.3.1. Family hardiness

The Family Hardiness (FH) Index developed by McCubbin et al.¹⁶ and modified and translated into Korean by Han et al.¹⁷ was used. This scale comprised 18 items across 3 subscales: inner sense of

control, giving meaning to life, and challenge. Each item was rated on a 4-point Likert-type scale. The internal consistency of the scale using Cronbach’s α , at the time of tool development and in this study, was .82 and .75, respectively.

2.3.2. Family sense of coherence

The Family Sense of Coherence (FSC) Questionnaire developed by Antonovsky and Sourani¹⁸ and translated into Korean by Lim¹⁹ was used. This scale comprised 26 items across 3 subscales: understandability, management, and meaning. Each item was rated on a 6-point Likert-type scale. Cronbach’s α at the time of tool development and in this study was .91 and .90, respectively.

2.3.3. Family problem-solving communication

The Family Problem-Solving Communication (FPSC) Scale developed by McCubbin et al.²⁰ and translated into Korean by Lim¹⁹ was used. This scale comprised 10 items across 2 subscales: affirming communication and incendiary communication. Each item was rated on a 4-point Likert-type scale. Cronbach’s α at the time of tool development and in this study was .89 and .79, respectively.

2.3.4. Family crisis coping strategy

The Family Crisis Oriented Personal Evaluation Scales developed by McCubbin, Olson, and Larsen²¹ and modified and translated into Korean by Han et al.¹⁷ was used. This scale comprised 20 items across 4 subscales: gather resources and support, accept stress, pursuit of spiritual support, and acquire social support. Each item was rated on a 5-point Likert-type scale. Cronbach’s α at the time of tool development and in this study was .77 and .73, respectively.

2.3.5. Social support

The Social Support (SS) Index developed by McCubbin et al.²⁰ and modified and translated into Korean by Lim¹⁹ was used. This scale comprised 9 items across 3 subscales: family, friends, and neighbors. Each item was rated on a 5-point Likert-type scale. Cronbach’s α at the time of tool development and in this study was .82 and .84, respectively.

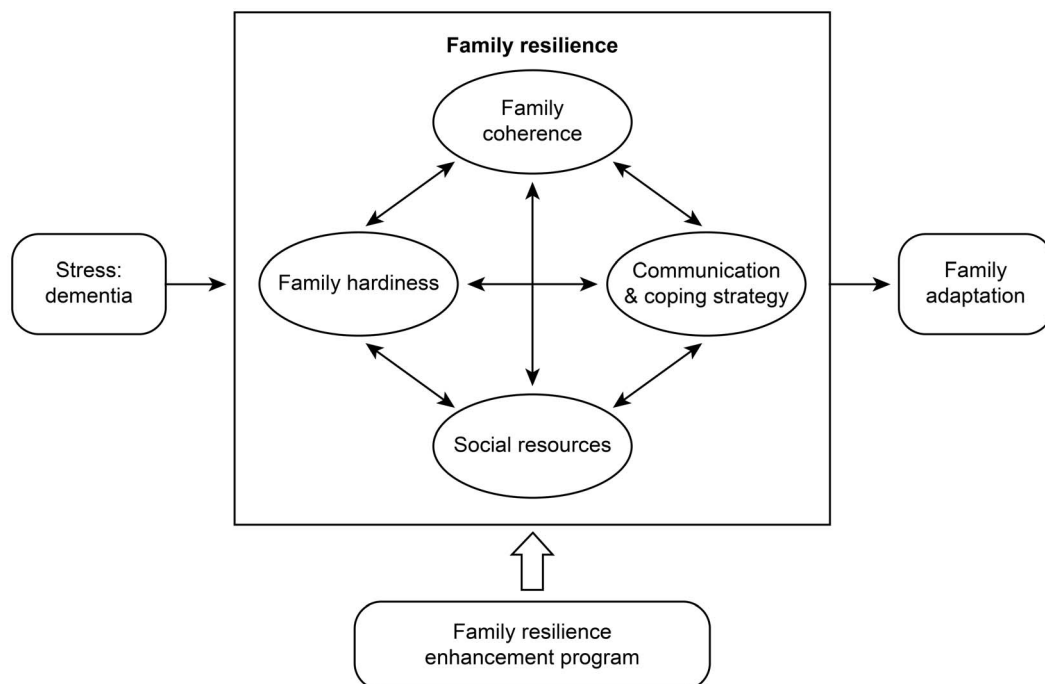


Fig. 1. Conceptual framework of FREP. FREP: Family resilience enhancement program.

2.3.6. Family adaptation

The Family Adaptation (FA) Scale III developed by Olson²² and translated into Korean by Lim¹⁹ was used. This scale comprised 10 items, and each item was rated on a 4-point Likert-type scale. Cronbach's α at the time of tool development and in this study was .77 and .94, respectively.

2.4. Procedure

The data were collected via self-report questionnaires from February 5 to April 8, 2012. Before data collection, the participants were given an explanation of the study objective and procedures. Then, they completed the above questionnaires as a pretest measurement. The EG attended 50-min FREP sessions for 8 weeks, while the CG attended a general education program. Both groups completed the same questionnaires again. Completing the questionnaires took approximately 30 minutes. Those who could not understand or answer the questionnaires were assisted by a researcher or research assistant.

2.5. Composition of FREP

Based on a literature review, FREP was designed to enhance FH, FSC, FPSC, Family Crisis Coping Strategy (FCCS), SS, and FA. This program comprised of 8 sessions, which were provided once per week for 8 weeks. Each session took approximately 50 minutes. Multi-learning methods were used including lectures, discussion, demonstration, practice, support, counseling, role play, and feedback. After the second session, a debriefing was conducted to share the effects of the training for their families. The theme of each session was as follows: (1) understanding dementia, (2) understanding family rules and confirming family strengths, (3) understanding and overcoming family crisis caused by elderly with dementia, (4) confirming family communication, (5) learning effective communication, (6) confirming family coping strategies, (7) learning desirable problem-solving methods, and (8) confirming family resources. In each session, we reviewed the assigned tasks and explained the topics and main content of the session. Afterward, we conducted training using demonstrations, discussed the situation, and summarized the results.

2.6. Data analysis

All analyses were conducted using SPSS version 20. First, the Kolmogorov-Smirnov test was used to examine the normality of the distribution. Descriptive statistics were used to analyze the variables. The Wilcoxon rank-sum test was used to compare the baseline data and pre-post differences between groups.

2.7. Ethical consideration

This study was approved by the institutional review board of Kangwon National University (1111-AFCR-056). Participants in both groups completed written informed consents that contained detailed information on the study's purpose and on the right to withdraw from the study at any time.

3. Results

3.1. General characteristics

Participants' mean age was 55.25 years in the EG and 56.20 years in the CG. There were 10 women in the EG and 12 in the CG. Fifteen participants (75%) in the EG were married while all in the CG were, which was a statistically significant difference. The family members with dementia had been symptomatic for 80.70 months in EG and 78.30 months in CG; 65% of EG and 40% of the CG lived with their elderly family member with dementia (Table 1).

3.2. Hypothesis testing

The baseline showed that EG had lower average in all variables than CG. However, the difference in EG were gains on all measures of family resilience, which was not seen in the CG, with significant gains on the following scales FH, FSC, FPSC, and FA significantly. In contrast, there were no significant differences in changes in FCCS and SS between the two groups (Table 2).

4. Discussion

This FREP focused on enhancing the strengths of family

Table 1
Demographic characteristics of participants in both groups.

Characteristics	Category	Experimental Group	Control Group	Z (p)
		n (%) / M (SD) ^a	n (%) / M (SD) ^a	
Age (years)		55.25 (14.61)	56.20 (10.00)	399 (.077)
Gender	Male	10 (50.0)	8 (40.0)	0.21 (.75)
	Female	10 (50.0)	12 (60.0)	
Marital status	Single	5 (25.0)	0 (0.0)	5.88 (.015)
	Married	15 (75.0)	20 (100.0)	
Relation with elderly person	Spouse	2 (10.0)	6 (30.0)	5.20 (.074)
	Son/daughter	18 (90.0)	12 (60.0)	
	Relative	0 (0.0)	2 (10.0)	
Income (dollars/month)	≤ 2000	7 (35.0)	10 (50.0)	0.95 (.343)
	2100–2500	13 (65.0)	10 (50.0)	
	> 500	0 (0%)	2 (10)	
Period of dementia (in months)		80.70 (5.87)	78.30 (10.37)	160 (.276)
Residence	With family	13 (65.0)	8 (40.0)	0.02 (.185)
	Nursing home	7 (35.0)	10 (50.0)	
	Other	0 (0.0)	2 (10.0)	

^a Mean (standard deviation).

Table 2
Comparison of pre- and post-test scores between groups.

Variables	Subscales	Baseline		z (p)	Difference ^b		z (p)
		Experimental M (SD) ^a	Control M (SD) ^a		Experimental M (SD) ^a	Control M (SD) ^a	
Family hardiness	Inner sense of control	3.03 (0.39)	3.30 (0.38)	-2.00 (.045)	0.10 (0.48)	-0.02(0.24)	-1.64 (.101)
	Giving meaning to life	2.00 (0.46)	2.28 (0.63)	-2.14 (.033)	0.98 (0.47)	0.02(0.12)	-4.85 (< .001)
	Challenge	2.03 (0.36)	2.15 (0.41)	-.91 (.364)	0.88 (0.58)	0.08(0.21)	-4.66 (< .001)
	Total	2.35 (0.33)	2.58 (0.31)	-2.29 (.022)	0.65 (0.41)	0.03(0.15)	-3.93 (< .001)
Family sense of coherence	Understandability	3.19 (0.44)	3.75 (0.37)	-3.51 (< .001)	0.36 (0.43)	0.00(0.19)	-3.88 (< .001)
	Management	3.18 (0.64)	4.02 (0.65)	-3.50 (< .001)	0.73 (0/49)	-0.03(0.13)	-5.05 (< .001)
	Meaning	3.34 (0.53)	4.24 (0.59)	-4.01 (< .001)	0.57 (0.39)	-0.04(0.15)	-5.03 (< .001)
	Total	3.24 (0.48)	4.02 (0.51)	-4.17 (< .001)	0.56 (0.34)	-0.03(0.11)	-4.97 (< .001)
Family problem-solving communication	Affirming communication	2.24 (0.48)	2.64 (0.40)	-2.20 (.028)	0.33 (0.50)	0.05 (0.16)	-2.19 (.028)
	Incendiary communication	2.49 (0.47)	2.88 (0.54)	-3.03 (.002)	0.21 (0.44)	0.01 (0.21)	-2.38 (.017)
	Total	2.37 (0.40)	2.76 (0.45)	-2.88 (.004)	0.27 (0.43)	0.03 (0.17)	-2.58 (.010)
Family crisis coping strategies	Gather resources and support	2.53 (0.48)	3.03 (0.46)	-3.11 (.002)	0.19 (0.43)	0.01 (0.19)	-1.32 (.188)
	Accept stress	2.86 (0.31)	3.01 (0.43)	-1.06 (.286)	0.14 (0.30)	0.01 (0.22)	-1.33 (.183)
	Pursuit of spiritual support	2.63 (0.81)	3.27 (1.14)	-1.96 (.050)	0.17 (0.50)	0.13 (0.35)	-.76 (.445)
	Acquire social support	2.62 (0.39)	2.83 (0.38)	-1.69 (.092)	0.15 (0.60)	0.02 (0.21)	-1.48 (.139)
Social support	Total	2.67 (0.33)	3.03 (0.33)	-3.09 (.002)	0.16 (0.31)	0.03 (0.23)	-1.39 (.164)
	Family	3.08 (0.70)	3.57 (0.67)	-1.81 (.071)	-0.05 (0.33)	-0.05 (0.12)	-.72 (.469)
	Friends	3.25 (0.39)	3.63 (0.60)	-1.77 (.077)	0.22 (0.43)	0.02 (0.13)	-1.73 (.084)
	Neighbors	2.97 (0.36)	3.13 (0.84)	-1.74 (.087)	0.35 (0.63)	0.03 (0.18)	-1.99 (.047)
Family adaptation	Total	3.10 (0.42)	3.43 (0.55)	-1.71 (.087)	0.17 (0.40)	0.00 (0.08)	-1.54 (.123)
	Total	3.35 (1.16)	5.28 (1.41)	-3.85 (< .001)	2.16 (1.41)	0.66 (1.63)	-3.11 (.002)

^aMean (Standard Deviation). ^bPosttest-pretest

members rather than using a problem-oriented approach when caring for elderly with dementia. This program was designed to provide knowledge on the disease and educate participants on practical methods they could apply in real life via demonstration, training, and role play. This positive approach to dealing with family members' difficulties and hardships helped them become more confident in overcoming the crisis.

Psychoeducation and FREP may be similar in educational content, but the theoretical frameworks and approaches are different. The ultimate goal of FREP is the adaptation of the family. In this way, FREP focuses on the positive adaptation of the family unit by improving the resilience of families, while traditional psychoeducation focuses on adapting to an individual's illness or crisis.

By talking to other families, family members could identify their situation and obtain mutual support, thereby adopt a more positive interpretation of their crisis, and achieve positive adaptation.¹⁹

FH significantly improved in EG. FH refers to a tendency to perceive crises as a typical part of life and an opportunity to mature.⁹ The intervention activities in this study encouraged participants to reflect on their family relationships and confirm internal principles, rather than focus on the burdens they had. These activities helped family members improve their internal sense of control and view their situation as a new challenge. Family members taking care of elderly with dementia tended to perceive it as an extremely stressful situation, and they report severe depression and anxiety.²³ Previous interventional methods, therefore, have been aimed at reducing such psychosocial, physiological, and psychological problems.^{23,24} In contrast, our intervention focused on the time they spent together as a family and finding the meaning of family since such aspects were an important and positive feature of a normal life. This FREP focused more on the family itself rather than caring for elderly with dementia.

FSC reflects the intimacy between family members and is emerging as an important variable contributing to stable family relationships and family resilience.²⁵ Indeed, FSC is associated with the level of intimacy and affection between family members in stressful situations. In this study, FSC was significantly higher in CG than EG in the pretest. In

CG, all the spouses were alive. For this reason, it is theorized that the family's sense of coherence was originally higher in CG. However, the EG showed a significant change after the program, indicating that FREP strengthened familial relationships, which could eventually increase family's adaptation to a stressful incident. This was similar to the results of a previous intervention that involved encouraging family members to spend more time together and to use compliments and encouragement to improve affection.²

FPSC also showed improvement after the program. Communication can be a valuable resource for families when family members talk to one another in an open, positive, and honest way. In the FREP, we examined the importance and types of communication and provided them with an opportunity to reflect on and change their own patterns of communication. Consequently, family members shared problem-solving methods, knowledge, experiences, and encouragement. Previous research has also shown that family problem-solving and supportive communication are strongly related to family adaptation.²⁵ However, such a communication style might be uncommon in South Korea. Korean families tend to be nuclear; however, their family communication style is still patriarchal — that is, they tend to avoid arguments rather than clearly speaking their minds. They believe an honest expression of their feelings is rude.²⁶ However, for effective communication, it is necessary to acknowledge individuals' independence and freedom and to listen to younger members of the household, rather than taking a patriarchal position. Indeed, fathers and sons — who have a considerable influence in solving family problems — should try to listen to other family members instead of ignoring their opinions. Although the EG reported that their communication skills and attitudes had improved after the program, it is likely that maintenance of such improvements requires continuous and supportive efforts.

SS did not show a statistically significant change after the program. As for the subscales, social support from neighbors increased significantly. According to participants' demographic characteristics, the fact that all in CG were married, while 25.0% of EG were single might have contributed to these results. The public

welfare service in South Korea is relatively poor, despite the rapidly increasing elderly population with health problems. The people currently supporting elderly with dementia are their children, who are typically working, or their aged spouses;²⁷ therefore, a public social support system for these individuals is highly required.

The families in EG in this study showed improvement in crisis coping strategies. However, the difference was not significantly different from that of CG. Family members mentioned that they no longer denied the elderly's diagnosis of dementia after they confirmed the level of trust and affection within the family, but felt they needed to learn more to effectively manage dementia. It is thus necessary to provide these individuals with specific information on the characteristics of elderly with dementia and their management.

The FREP was effective for FA and helped the elderly with dementia to adapt to their families. Specifically, an important achievement of this study was that family members could accept the meaning of the family itself positively and utilize positive communication methods. Our program was conducted with the primary caregivers of elderly with dementia, and therefore had the limitation of not including other family members. When developing similar intervention programs, we recommend including not only the primary caregivers but all family members. Another limitation was that the variables were not homogeneous, as we used convenience sampling for both groups, so that the baseline assessment revealed that the EG was significantly lower on a number of variables than the CG. We propose a randomized experimental study to test the effect of the FREP in the future.

5. Conclusion

We found that FREP was effective for family adaptation. We also found that it had positive effects on family hardiness, sense of coherence, problem-solving communication, and adaptation. These results illustrated the significance of this study. We developed FREP employing numerous strategies to induce positive behavioral change, rather than merely conveying knowledge. We expect that FREPs for Koreans will be further developed based on our results. Finally, we suggest that further studies are needed to better elucidate the appropriate interventions for Korean and other Asian families taking care of the elderly with dementia, and we hope that this program can serve as a baseline to establish structured educational and support programs for the family members of elderly with dementia.

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Declarations of interest

None.

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