

FAMILY EMPOWERMENT, CAREGIVER POSITIVE FEELINGS, AND DEMENTIA QUALITY OF LIFE: A MEDIATION ANALYSIS

Fitriani Fadillah

Graduate School of Nursing, Philippine Women's University, Manila, Philippines,
2023t1217@pwu.edu.ph

ABSTRACT

Background: Dementia is a growing public health challenge that reduces the quality of life of older adults and places considerable physical, emotional, and psychological burdens on family caregivers. Although family empowerment has been recognized as an important strategy for improving dementia care, the mediating role of caregiver positive feelings remains inadequately understood. **Objectives:** This study aimed to examine the effect of family empowerment on dementia quality of life and to determine the mediating role of caregiver positive feelings. **Methods:** A quantitative cross-sectional correlational study was conducted among 150 family caregivers of older adults with dementia in Medan Amplas, Indonesia. Participants were recruited using purposive sampling. Data were collected using the Family Empowerment Scale, Dementia Caregiver Positive Feeling Scale, and Dementia Quality of Life Instrument. Pearson correlation, multiple regression, and mediation analyses were performed using SPSS version 27. **Results:** Family empowerment was significantly associated with caregiver positive feelings ($r = 0.409$, $p < 0.001$) and dementia quality of life ($r = 0.487$, $p < 0.001$). Caregiver positive feelings were also positively associated with dementia quality of life ($r = 0.555$, $p < 0.001$). Regression analysis showed that family empowerment ($\beta = 0.312$, $p < 0.001$) and caregiver positive feelings ($\beta = 0.427$, $p < 0.001$) significantly predicted dementia quality of life ($R^2 = 0.389$). Caregiver positive feelings partially mediated this relationship ($\beta = 0.175$, $p < 0.001$). **Conclusions:** Family empowerment improves the quality of life of older adults with dementia directly and indirectly through caregiver positive feelings. Strengthening community-based empowerment programs may enhance caregiver resilience and dementia care outcomes.

Keywords: Dementia; Family Empowerment; Caregiver Positive Feelings; Mediation Analysis; Quality of Life

*Correspondent:

Email Author marked (*)

Only the Author's name marked (*)

Author Institution marked, must be written with full author address (*)

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INTRODUCTION

Dementia is one of the fastest-growing public health challenges worldwide due to the rapid aging of the global population. According to the (Turana *et al.*, 2023), more than 55 million people are currently living with dementia, and nearly 10 million new cases are diagnosed each year. It is estimated that this number will increase to approximately 78 million by 2030 and 139 million by 2050, particularly in low- and middle-income countries where access to dementia care remains limited (WHO, 2023). Dementia progressively impairs cognitive function, memory, communication, and the ability to perform activities of daily living, resulting in increasing dependence on family members for long-term care (Farina *et al.*, 2017).

In Southeast Asia, the prevalence of dementia continues to rise in parallel with increasing life expectancy. Indonesia, one of the countries experiencing rapid population aging, faces a growing burden of dementia that challenges both the healthcare system and family caregiving capacity. Most individuals with dementia are cared for at home because institutional long-term care services remain limited. Consequently, family caregivers become the primary providers of physical, emotional, and social support throughout the disease trajectory (Brown *et al.*, 2019) (Turana *et al.*, 2023). Although home-based care is culturally appropriate, prolonged caregiving responsibilities often expose caregivers to psychological distress, emotional exhaustion, and reduced well-being, ultimately influencing the quality of life of older adults living with dementia (Rismawaty and Adioetomo, 2021)

Family empowerment has emerged as an important strategy for improving dementia care by strengthening caregivers' knowledge, confidence, decision-making capacity, and caregiving competence (Aytona *et al.*, 2022). Empowered caregivers are more capable of managing behavioral symptoms, communicating effectively with healthcare professionals, and adapting to the progressive nature of dementia (Wimo *et al.*, 2023). Previous studies have consistently demonstrated that caregiver empowerment contributes to better caregiving outcomes, reduces caregiver burden, and enhances patient well-being (Christensen *et al.*, 2022). Nevertheless, empowerment alone may not fully explain improvements in the quality of life of individuals with dementia because caregiving is strongly influenced by caregivers' emotional experiences.

Positive feelings experienced by caregivers—including satisfaction, hope, confidence, and a sense of personal accomplishment—have recently received increasing attention as protective psychological resources. Unlike caregiver burden, which reflects negative consequences of caregiving, positive feelings encourage resilience, improve coping strategies, and strengthen caregivers' motivation to continue providing care despite considerable challenges (Farina *et al.*, 2017; Vicente *et al.*, 2020). Caregivers with higher positive feelings demonstrate lower stress levels, greater psychological well-being, and better caregiving performance, which ultimately contributes to improved quality of life among people living with dementia (Farina *et al.*, 2017)

Although previous research has established independent associations between family empowerment, caregiver positive feelings, and dementia quality of life, limited evidence has examined how these variables interact within a single conceptual framework, particularly in

community-based settings in developing countries. Most existing studies have focused on caregiver burden or psychological distress rather than examining positive emotional experiences as a potential mediating mechanism. Furthermore, evidence from Indonesia remains scarce despite the increasing prevalence of dementia and the country's strong family-centered caregiving culture (Turana *et al.*, 2023). Addressing this research gap is important for developing evidence-based interventions that not only improve caregivers' competencies but also promote positive emotional adaptation during long-term caregiving.

Based on these considerations, this study investigated whether caregiver positive feelings mediate the relationship between family empowerment and the quality of life of older adults with dementia. Understanding this mechanism may provide valuable evidence for developing family-centered and community-based dementia care programs that simultaneously strengthen caregiver empowerment and emotional resilience.

Therefore, this study aimed to analyze the relationship between family empowerment, caregiver positive feelings, and dementia quality of life and to determine the mediating role of caregiver positive feelings in this relationship. It was hypothesized that family empowerment would have a significant positive effect on dementia quality of life both directly and indirectly through caregiver positive feelings. The findings are expected to contribute to nursing science by expanding knowledge regarding psychosocial mechanisms underlying dementia caregiving. Practically, the results may support healthcare professionals, community health workers, and policymakers in designing family empowerment interventions that foster caregivers' positive emotional experiences and improve the quality of life of older adults with dementia.

METHODS

This study employed a quantitative cross-sectional correlational design to examine the relationships among family empowerment, caregiver positive feelings, and the quality of life of older adults with dementia. A mediation analysis was conducted to determine whether caregiver positive feelings mediated the relationship between family empowerment and dementia quality of life. Cross-sectional correlational research is appropriate for examining associations among variables measured at a single point in time (Fan *et al.*, 2024)

The study was conducted in Medan Amplas District, Medan City, North Sumatra, Indonesia, from January to March 2026. The target population consisted of family caregivers providing primary care for older adults diagnosed with dementia. Participants were eligible if they were aged ≥ 18 years, had provided direct care for at least six months, and agreed to participate by signing informed consent. Professional caregivers and caregivers of older adults with severe comorbid conditions that prevented participation were excluded.

The sample consisted of 150 family caregivers, selected using purposive sampling based on predefined inclusion criteria. The sample size was determined using the recommendation of Hair *et al.* (2022), which suggests a minimum sample of 5–10 participants for each estimated parameter in multivariate analyses, indicating that 150 participants were adequate to achieve sufficient statistical power for mediation analysis.

The independent variable was family empowerment, defined as the caregiver's perceived ability, knowledge, confidence, and participation in managing dementia care. It was measured using the Family Empowerment Scale (FES). The mediating variable was caregiver positive feelings, defined as positive emotional experiences such as satisfaction, confidence, and

fulfillment derived from the caregiving role, measured using the Dementia Caregiver Positive Feeling Scale (DCPFS). The dependent variable was dementia quality of life, defined as the perceived quality of life of older adults with dementia, measured using the Dementia Quality of Life Instrument (DQoL). All instruments had demonstrated satisfactory validity and reliability in previous studies and were re-evaluated before data collection.

Data were collected through structured questionnaires administered directly to participants after obtaining written informed consent. Descriptive statistics were used to summarize respondents' characteristics and study variables. Pearson correlation analysis examined bivariate relationships among variables. Multiple linear regression analysis identified predictors of dementia quality of life, while mediation analysis using the Baron and Kenny approach, supported by Sobel testing, examined the indirect effect of caregiver positive feelings on the relationship between family empowerment and dementia quality of life. Statistical analyses were performed using IBM SPSS Statistics version 27, with a significance level of $p < 0.05$ (Barón Castro *et al.*, 2023)

Ethical approval was obtained from the Philippine Women's University Research Ethics Review Board (PWU-RERB), Manila, Philippines (ERB Protocol No. ERB2025_159; approved on October 21, 2025; valid until October 13, 2026). The Research Ethics Review Board determined that the study qualified for an ethics review waiver because the research locale and data collection procedures were under the jurisdiction of local policies and guidelines. Nevertheless, the research protocol was reviewed by the Ethics Review Committee to ensure compliance with institutional ethical standards. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Written informed consent was obtained from all participants before data collection. Participants were assured of confidentiality, anonymity, voluntary participation, and their right to withdraw from the study at any time without penalty.

RESULTS AND DISCUSSIONS

Respondent Characteristics

A total of 150 family caregivers participated in this study. Most caregivers were female (66.7%), aged 60–74 years (48.7%), had completed secondary education (60.0%), and had been providing care for three years or longer (59.3%). The majority of older adults had Alzheimer's disease (63.3%). These findings indicate that dementia care in the community is predominantly provided by older female family members who have long-term caregiving responsibilities.

Table 1. Characteristics of Respondents (n = 150)

Variables	n	%
Gender		
Male	50	33.3
Female	100	66.7
Age (years)		
< 60	38	25.3
60–74	73	48.7
≥ 75	39	26.0
Education		
Primary	32	21.3
Secondary	90	60.0
Higher Education	28	18.7
Duration of caregiving		
< 3 years	61	40.7
≥ 3 years	89	59.3

The predominance of female caregivers reflects traditional family roles in Indonesia, where women are generally responsible for caring for older family members. Longer caregiving duration may contribute to greater caregiving experience; however, prolonged caregiving also increases emotional demands. Similar findings have been reported by Turana et al. (2023) and Brodsky and Donkin (2022), emphasizing the importance of caregiver support programs.

Tabel 2. Relationship Between Family Empowerment, Caregiver Positive Feelings, and Dementia Quality of Life

Variables	1	2	3
1. Family Empowerment	1		
2. Caregiver Positive Feelings	0.409*	1	
3. Dementia Quality of Life	0.487*	0.555*	1

The findings indicate that caregivers with higher levels of family empowerment tended to report stronger positive feelings and better quality of life among older adults with dementia. Empowerment improves caregivers' knowledge, confidence, and decision-making ability, enabling them to provide more effective and compassionate care. These findings are consistent with (Hassett *et al.*, 2020), (Mira *et al.*, 2021), who reported that empowered caregivers demonstrate better psychological adaptation and caregiving outcomes.

Tabel 3. Predictors of Dementia Quality of Life

Variables	β	t	p-value
Family Empowerment	0.312	4.460	<0.001
Caregiver Positive Feelings	0.427	6.110	<0.001

Model Summary: $R^2 = 0.389$; $F = 46.80$; $p < 0.001$.

Approximately 38.9% of the variance in dementia quality of life was explained by family empowerment and caregiver positive feelings. Caregiver positive feelings showed the strongest standardized effect, suggesting that emotional resilience is an important mechanism through which caregivers influence patient outcomes. These results support previous studies indicating that psychological well-being enhances caregiving effectiveness and improves patient quality of life (Farina *et al.*, 2017).

Tabel 4. Mediating Role of Caregiver Positive Feelings

Path	β	p-value
Family Empowerment → Caregiver Positive Feelings	0.350	<0.001
Caregiver Positive Feelings → Dementia Quality of Life	0.898	<0.001
Direct Effect	0.562	<0.001
Indirect Effect	0.175	<0.001

The mediation findings suggest that family empowerment enhances dementia quality of life both directly and indirectly by increasing caregivers' positive emotional experiences. Empowered caregivers are more likely to experience satisfaction, optimism, and confidence, enabling them to provide higher-quality care. These findings extend previous literature by identifying caregiver positive feelings as a significant psychological pathway linking empowerment to patient outcomes.

One of the strengths of this study is the application of mediation analysis, which provides a more comprehensive understanding of the mechanisms underlying dementia care. In addition, the use of standardized instruments with good psychometric properties strengthens the reliability of the findings. However, the cross-sectional design limits causal inference, and the study was conducted in a single district, which may reduce the generalizability of the results.

Future longitudinal and multicenter studies are recommended to confirm these relationships and evaluate the long-term effectiveness of family empowerment interventions.

CONCLUSIONS

This study demonstrated that family empowerment significantly influences the quality of life of older adults with dementia, both directly and indirectly through caregiver positive feelings. Higher levels of family empowerment were associated with greater caregiver confidence, competence, and positive emotional experiences, which contributed to better quality of life among older adults with dementia. Caregiver positive feelings were identified as a significant partial mediator, indicating that emotional resilience is an important mechanism linking family empowerment to improved patient outcomes.

These findings highlight the importance of implementing family-centered and community-based empowerment programs that strengthen caregivers' knowledge, skills, and psychological well-being as part of comprehensive dementia care. Such interventions may improve both caregiver resilience and the quality of life of older adults living with dementia.

Future studies are recommended to employ longitudinal or experimental designs to establish causal relationships and evaluate the long-term effectiveness of empowerment-based interventions. Expanding the research to multiple settings and larger populations would also improve the generalizability of the findings and provide stronger evidence for developing sustainable dementia care policies and nursing interventions.

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

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AUTHOR CONTRIBUTIONS

Conceptualization, data curation, formal analysis, investigation, methodology, project administration, validation, visualization, writing—original draft, and writing—review and editing

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