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Factors associated with life satisfaction among family caregivers of persons living with dementia

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Purpose: Because family caregivers provide a considerable amount of daily care to persons living with dementia, they are at risk of experiencing poor life satisfaction. Therefore, this study aimed to examine factors associated with the life satisfaction of family caregivers of persons living with dementia.
Methods: Data were collected through surveys from family caregivers (N=183), and a multiple linear regression analysis was conducted to examine the factors associated with their life satisfaction.
Results: The final model indicated that perceiving support from intimate others as helpful (β=.22, p<.001) was associated with greater life satisfaction, whereas a negative relationship with the care recipients (β=−.15, p=.046) and greater psychological burden (β=−.40, p<.001) were associated with poorer life satisfaction (Adjusted R^2=0.49, F=20.42, p<.001).
Conclusion: Public policy should focus on providing greater support to family caregivers. Furthermore, healthcare professionals should implement intervention programs for family caregivers that focus on lowering their psychological burden.

Keywords: Dementia; Caregivers; Caregiver Burden; Personal Satisfaction

Introduction

The number of persons living with dementia is increasing worldwide [1]. In 2019, 55 million people were reported to have dementia, and this number is expected to increase constantly [1]. In South Korea, 0.93 million adults aged 65 and above are living with dementia, which is approximately 10.4% of the total population of this age group [2]. Because dementia is accompanied by progressive cognitive decline, persons living with dementia eventually forget how to perform activities of daily living, such as eating, dressing, or toileting [3,4].

Additionally, as cognitive decline progresses, various behavioral and psychological symptoms of dementia, such as wandering, agitation, or sleep disturbances, commonly occur [3,5]. Because of the nature of the disease, informal or family caregivers provide a wide range of care from assisting the persons living with dementia in activities of daily living to administrating medications and managing the behavioral and psychological symptoms of dementia [3]. Family caregivers provide extensive care: reportedly, 30 hours per week on average [3]. Due to the substantial amount of care provided, many caregivers often experience psychological burden [6-8]. High caregiving burden are associated with low life satisfaction in family caregivers of persons living with dementia [9,10].

Low life satisfaction among caregivers is linked not only to a diminished quality of life for themselves [11] but also to negative outcomes for persons living with dementia [12]. For instance, when caregivers experience low life satisfaction, the likelihood of persons with dementia visiting an outpatient clinic when needed is reduced [12]. This is because low life satisfaction among care-

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givers hinders the effective management of clinical care for persons living with dementia [12]. When caregivers experience a high level of burden and are less satisfied with their lives, it can also lead to the institutionalization of persons living with dementia [13].

Previous literature identifies factors related to the life satisfaction of family caregivers. Notably, as mentioned previously, a lower caregiving burden was associated with better life satisfaction among family caregivers of people living with dementia [9,10,14]. Other factors include the following. To begin with, caregivers' perceived physical health status is related to their life satisfaction [15]. Longer caregiving hours were associated with a poorer quality of life for caregivers [16]. When caregivers have a better relationship with the care recipient, they are more likely to experience better life satisfaction [17]. Greater caregiving tasks due to the severity of dementia were associated with lower life satisfaction [9]. Caregivers with better social support are more likely to experience greater life satisfaction [16,18].

In addition to informal social support from friends and family, various types of formal care support are available to older adults in South Korea. A public insurance system, called the Long Term Care Insurance for the Elderly, is available to older adults with difficulties performing daily activities so that they can receive long-term care services [19]. Examples of these services include day care centers, at-home bathing services, and healthcare visits [20]. If needed, family caregivers of older adults living with dementia can receive this formal care support for free or at a low cost [20]. Moreover, South Korea has 256 public local dementia centers across the country under the National Institute of Dementia [21]. These local dementia centers were established beginning in 2017 to support early dementia screening in the community and to provide dementia-related services, such as family support groups [21]. While informal social support is known to be related to better life satisfaction among caregivers, it is unclear whether the formal social support system in South Korea also impacts the life satisfaction of family caregivers of persons living with dementia.

Because caregiver life satisfaction is important not only for caregivers but also for persons living with dementia who receive care, identifying factors associated with caregiver life satisfaction is essential. In particular, considering the specific context of Korean Long-Term Care Insurance and local dementia centers, it is important to evaluate whether this formal care support can contribute to improved caregiver life satisfaction. However, there is a lack of knowledge in this area. Guided by previous conceptual models on caregiver quality of life and life satisfaction [22,23], this study aimed to examine the factors associated with the life satisfaction of family caregivers of persons living with dementia within the context of Korean Long Term Care Insurance and local dementia centers.

Methods

Participants and data collection

The study participants were recruited from among family caregivers of persons living with dementia in South Korea. The eligibility criteria for the study were as follows: (1) individuals aged 19 and over, (2) those caring for a person diagnosed with dementia, (3) those who have provided care for a person with dementia for at least the past three months, (4) individuals not receiving financial compensation for caregiving, and (5) those who understood the purpose of the study and consented to participate. Data collection took place at 5 local dementia centers in Daejeon city from October to November 2022. Additionally, the researchers posted a survey link to a support group community website for families of people living with dementia so that interested caregivers could participate in the survey. The online survey participants could access the survey only after they signed informed consent. This study was approved by the Institutional Review Board at the first author's institution (IRB No.2-1040766-AB-N-01-R-2022-08).

A power analysis was conducted using G Power 3.1.9.7 software to identify a sufficient sample size to answer our research question. With a medium effect size (Cohen's $f^2 = .15$), power of .9, probability of .05, and 16 predictors, the required sample size was 175. Considering a dropout rate of approximately 10%, the survey was conducted with a total of 189 participants. Because 6 participants provided a large amount of incomplete data, data from a total of 183 family caregivers were used for analysis.

Measures

General characteristics

General characteristics included age, sex, education, job status, perceived health, care hours per day, and relationship with the person living with dementia.

Formal/informal care support

Care support included formal and informal care support. According to previous literature on formal and informal support, formal support refers to organizational services, while informal support refers to perceived support from individuals [24,25]. In this study, the formal support refers to the services currently provided under

the Korean Long Term Care Insurance, including those offered by the government, community organizations and institutions, systems, and services available to dementia. Based on a review of the literature, the authors created items to measure formal support. Formal support was measured by asking the participants what types of formal support services they were receiving, such as care visits, day and night care, short-term protection services, bathing services, nursing visits, or use of local dementia centers. The number of formal care support services was then used for data analysis. Informal support was assessed by asking the participants about the helpfulness of social support received from family, friends, or significant others. The response options included: (1) Not helpful, (2) Moderately helpful, and (3) Helpful.

Caregiving tasks

Caregiving tasks were measured by the Korean version of the Caregiving Tasks Scale, which measures the amount of help that caregivers provide to care recipients [26]. The Korean version of the Caregiving Tasks Scale is a 10-item scale that was translated from the Caregiving Tasks Scale developed by Kramer and Kipnis in 1995 [27]. This scale is a 4-point Likert scale ranging from not at all (0) to nearly every day (3), and a higher score indicates greater caregiving tasks. An average score of the 10 items was used for data analysis. When developed, the Korean version of the Caregiving Tasks Scale showed good reliability with a Cronbach's alpha value of 0.83, and in this study, the Cronbach's alpha value was 0.86

Caregiving burden

Caregiving burden was measured by the Korean Burden Inventory [28], which was developed specifically for caregivers of persons living with dementia. This scale consists of 28 items, and each item is rated on a 5-point scale, ranging from 1 to 5. A higher score indicates a greater caregiver burden. This scale has 6 subdimensions: negative changes in the relationship between caregivers and the person living with dementia (7 items), restrictions in social activities (6 items), negative changes in family relationships (5 items), psychological burden (4 items), financial burden (3 items), and health-related burden (3 items). In this study, we used the subdimensions for data analysis. For each dimension, the average score of the component items was used for data analysis. When developed, the Cronbach's alpha value for the entire scale was 0.9, and the alpha values of the subdimensions ranged from 0.75 to 0.89 [28]. In this study, the reliability of the entire scale was 0.95, and the reliability of each subdimension ranged from 0.84 to 0.91.

Life satisfaction

The life satisfaction of the caregivers was measured using the Life Satisfaction Scale, a 20-item scale [29]. Each item was measured on a 5-point Likert scale from 1 to 5, and a higher score indicated better life satisfaction. For data analysis, the average of the 20 items was used. When developed, the Cronbach's alpha value of the scale was 0.87, and the alpha value of the scale in the current study was 0.87.

Data analysis

Descriptive statistics included means, standard deviations, and percentages. Descriptive data analyses were conducted for all general characteristics, formal/informal care support, caregiving tasks, caregiving burden, and life satisfaction. Independent t-tests, a one-way ANOVA, and correlation coefficient tests were conducted to examine the relationships between independent variables and life satisfaction.

Finally, a multiple linear regression analysis was performed to identify the predictors of better life satisfaction among family caregivers of persons living with dementia. The data were tested for the assumptions of regression analysis. The results showed that the Durbin-Watson value was 1.97, which is close to 2 and indicates no autocorrelation of errors. Additionally, multicollinearity was tested using variance inflation factor values, and as the values ranged from 1.206 to 3.185, no multicollinearity issues were identified. Data analyses were conducted using the IBM SPSS statistics version 26.0. Statistical significance was set at $p < .05$.

Results

Table 1 shows the characteristics of the participants. The majority of the caregivers were female (80.3%), had greater than university-level education (90.7%), had jobs (57.4%), and were either daughters or daughters-in-law of the care recipients (40.4% and 21.3%, respectively). The majority of the caregivers were providing care for less than 6 h per day (63.9%), perceived informal support as helpful (54.1%), and were utilizing one or more formal support services (92.3%). The average score of the caregiving tasks was 2.05 ± 0.56 (min-max: 0-3) and the average score of the caregiving burden was 3.27 ± 0.72 (min-max: 1-5). The average life satisfaction score was 3.12 ± 0.61 (min-max: 1-5).

Next, we tested whether life satisfaction scores differed by general characteristics, formal/informal support, caregiving tasks, and caregiving burden. For categorical variables, we conducted independent *t*-tests and a one-way ANOVA. As shown in Table 2,

Table 1. Characteristics of the Participants (N=183)

Characteristics	Characteristics	n (%) or Mean ± SD	Min-Max
Age	< 40	51 (27.9)	
	40-49	46 (25.1)	
	50-59	50 (27.3)	
	≥ 60	36 (19.7)	
Sex	Male	36 (19.7)	
	Female	147 (80.3)	
Education	High school or less	17 (9.3)	
	University education or more	166 (90.7)	
Job Status	No	78 (42.6)	
	Yes	105 (57.4)	
Perceived Health	Bad	48 (26.2)	
	Moderate	101 (55.2)	
	Good	34 (18.6)	
Care Hours Per Day	≤ 3 hours	58 (31.7)	
	4–6 hours	59 (32.2)	
	7–9 hours	22 (12)	
	10–12 hours	15 (8.2)	
	≥ 13 hours	29 (15.8)	
Relationship with the Care Recipient Living with Dementia	Spouse	23 (12.6)	
	Daughter	74 (40.4)	
	Son	25 (13.7)	
	Daughter-in-law	39 (21.3)	
	Others	22 (12.0)	
Informal Support	Not Helpful	47 (25.7)	
	Moderately Helpful	37 (20.2)	
	Helpful	99 (54.1)	
Formal Support	None	14 (7.7)	
	1	79 (43.2)	
	2	44 (24.0)	
	3	36 (19.7)	
	4 or more	10 (5.5)	
Caregiving Tasks		2.05 ± 0.56	0-3
Caregiving Burden	Caregiving Burden	3.27 ± 0.72	1-5
	Negative changes in the relationship between caregivers and the person living with dementia	3.42 ± 0.77	1-5
	Restrictions in social activities	3.42 ± 0.91	1-5
	Negative changes in family relationships	2.99 ± 0.92	1-5
	Psychological burden	2.82 ± 0.93	1-5
	Financial burden	3.34 ± 1.02	1-5
	Health-related burden	3.58 ± 0.90	1-5
Life Satisfaction		3.12 ± 0.61	1-5

perceived health (F = 16.67, p < .001) and informal support (F = 16.21, p < .001) were related to caregiver life satisfaction. When caregivers perceived their health as good, they were more satisfied with their lives. Furthermore, when caregivers perceived informal support as helpful, they had greater life satisfaction.

For continuous variables, we used correlation coefficient tests (Table 3). Caregiving tasks and life satisfaction showed a negative relationship (r = –.22, p = .003). The analysis of the correlation between life satisfaction and the subdimensions of caregiving burden revealed significant negative correlations: negative changes in the relationship between caregivers and the person living with dementia had an r-value of –.52 (p < .001), restrictions in social activities an r-value of –.41 (p < .001), negative changes in family relationships an r-value of –.53 (p < .001), psychological burden an r-value of –.65 (p < .001), financial burden an r-value of –.32 (p < .001), and health-related burden an r-value

Table 2. Life Satisfaction Score by Categorical Independent Variables

Characteristics		Mean ± SD	t or F	*p*	Dunnett†
Age	< 40	3.02 ± 0.56	1.82	.146	
	40-49	3.29 ± 0.67			
	50-59	3.08 ± 0.62			
	≥ 60	3.09 ± 0.55			
Sex	Male	3.18 ± 0.57	0.64	.521	
	Female	3.11 ± 0.62			
Education	High school or less	2.93 ± 0.63	-1.39	.166	
	University education or more	3.14 ± 0.60			
Job status	No	3.12 ± 0.60	-0.02	.986	
	Yes	3.12 ± 0.61			
Perceived Health	Bad[a]	2.83 ± 0.46	16.70	< .001	a < b < c
	Moderate[b]	3.12 ± 0.54			
	Good[c]	3.55 ± 0.71			
Care Hours Per Day	≤ 3 hours	3.27 ± 0.59	1.64	.166	
	4–6 hours	3.05 ± 0.65			
	7–9 hours	3.06 ± 0.55			
	10–12 hours	3.19 ± 0.56			
	≥ 13 hours	2.97 ± 0.57			
Relationship with the Care Recipient Living with Dementia	Spouse	2.92 ± 0.52	1.73	.145	
	Daughter	3.07 ± 0.59			
	Son	3.14 ± 0.58			
	Daughter-in-law	3.20 ± 0.67			
	Others	3.34 ± 0.60			
Informal Support	Not Helpful[a]	2.83 ± 0.51	16.26	< .001	a,b < c
	Moderately helpful[b]	2.92 ± 0.36			
	Helpful[c]	3.34 ± 0.64			
Formal Support	None	3.42 ± 0.36	1.53	.196	
	1	3.12 ± 0.59			
	2	3.11 ± 0.63			
	3	3.10 ± 0.66			
	4 or more	2.82 ± 0.64			

†Dunnett's tests were used for post-hoc test

Table 3. Correlations Between Continues Variables and Life Satisfaction

	1	2	3	4	5	6	7	8	9
					r(*p*)				
1. Caregiving Tasks	1								
2. Caregiving Burden	.38 (< .001)	1							
3. Negative changes in the relationship between caregivers and the person living with dementia	.17 (.020)	.80 (< .001)	1						
4. Restrictions in social activities	.47 (< .001)	.80 (< .001)	.44 (< .001)	1					
5. Negative changes in family relationships	.17 (.022)	.85 (< .001)	.63 (< .001)	.58 (< .001)	1				
6. Psychological burden	.28 (< .001)	.82 (< .001)	.65 (< .001)	.54 (< .001)	.68 (< .001)	1			
7. Financial burden	.31 (< .001)	.74 (< .001)	.51 (< .001)	.57 (< .001)	.57 (< .001)	.48 (< .001)	1		
8. Health-related burden	.51 (< .001)	.81 (< .001)	.55 (< .001)	.66 (< .001)	.64 (< .001)	.65 (< .001)	.57 (< .001)	1	
9. Life Satisfaction	-.22 (.003)	-.61 (< .001)	-.52 (< .001)	-.41 (< .001)	-.53 (< .001)	-.65 (< .001)	-.32 (< .001)	-.51 (< .001)	1

of −.51 ($p < .001$).

Table 4 summarizes the results of the multiple linear regression analysis for factors associated with life satisfaction among family caregivers of persons living with dementia. Only independent variables that showed statistical significance with life satisfaction in the previous tests were included in the regression model. The caregivers' perception that informal support is helpful ($\beta = .22$, $p < .001$), less negative change in the caregiver relationship with the care recipient ($\beta = -.15$, $p = .046$), and low psychological burden of the caregiver ($\beta = -.40$, $p < .001$) were related to high life satisfaction among the caregivers (Adjusted $R^2 = .49$, $F = 20.42$, $p < .001$).

Discussion

This study was conducted to examine factors associated with life satisfaction among family caregivers of persons living with dementia. This study found that a large psychological burden of the caregivers was the most important factor influencing the low life satisfaction among family caregivers. This result is consistent with previous studies that reported that the caregiving burden is related to low life satisfaction among family caregivers of persons living with dementia [9,10,14]. A high level of perceived burden may indicate that persons living with dementia have severe cognitive impairment or greater behavioral and psychological symptoms [6,30]. Evidence-based intervention programs for caregivers of persons living with dementia are effective in lessening caregiver burden [31-33]. These programs include stress management through cognitive behavioral therapy [31], strategies to mitigate the impact of distressing behavioral symptoms [32], and comprehensive support programs offering education, skills training, and emotional support [33]. Therefore, more efforts are required to apply such programs to family caregivers of persons living with dementia. Caregivers' well-being is important not only for the caregivers but also for the person living with dementia for whom they are caring [34]. Therefore, healthcare professionals should connect family caregivers to available resources that can help reduce caregiving burden.

In this study, we found that when caregivers perceived informal caregiver support as helpful, they reported greater life satisfaction. This is consistent with the results of a previous study that found social support to be important for life satisfaction [18]. Furthermore, positive social interaction can lead to better well-being of caregivers [35,36]. Because unmet emotional needs lead to greater caregiving burden [37], a support system is essential for the caregivers, and many family caregivers of persons living with dementia report needing support [38,39]. Therefore, healthcare professionals need to educate the entire family of the person living with dementia on the importance of providing informal support as well as valuing the caregiving of the primary caregiver. This type of family-centered care will be beneficial not only for the primary caregiver but also for the person living with dementia and the entire family [40]. Additionally, when the available informal support is limited, healthcare professionals should guide caregivers to develop strategies to cope with their burden [8].

Although this study examined both informal and formal support services that caregivers received, only informal support was significantly related to greater life satisfaction. This may be because the caregivers perceived the formal services as not very helpful or limited. Various types of formal support, such as counseling, caregiver support, or education, are available in European countries [41]. Public health officials should implement these services to enable family caregivers to experience a reduced caregiving burden and improved well-being.

Table 4. Factors Associated with Caregivers' Life Satisfaction (N=183)

	B	SE	β	t	p
Perceived Health	0.10	0.06	.11	1.73	.086
Informal Support	0.16	0.04	.22	3.76	< .001
Caregiving Tasks	0.01	0.07	.01	0.17	.869
Caregiving Burden					
Negative changes in the relationship between caregivers and the person living with dementia	-0.12	0.06	-.15	-2.02	.046
Restrictions in social activities	-0.03	0.05	-.05	-0.65	.519
Negative changes in family relationships	-0.06	0.06	-.09	-1.00	.317
Psychological burden	-0.26	0.05	-.40	-4.80	< .001
Financial burden	0.03	0.04	.06	0.77	.443
Health-related burden	-0.01	0.06	-.01	-0.09	.926
Constant	3.90	0.26		15.31	< .001

Adjusted R^2=.49, F=20.42, p<.001

In this study, negative changes in the relationship between caregivers and the person living with dementia lowered caregiver life satisfaction. This is consistent with a previous study that found a close link between the relationship quality and life satisfaction among caregivers of persons living with dementia [17,42]. Due to the nature of dementia, individuals living with the condition undergo cognitive decline and exhibit behavioral and psychological symptoms [3,5]. Thus, because of disease progression, it is expected that caregivers will experience negative shifts in their relationships with those in their care. However, focusing on the positive aspects of caregiving, such as recognizing the benefits of caregiving for themselves or for the person they are caring for, can enhance caregiver life satisfaction and overall quality of life [43]. Additionally, when caregivers perceive positive aspects of caregiving, it leads to positive outcomes for the care recipient, such as a reduction in behavioral and psychological symptoms [34]. Given that recognizing the positive aspects of caregiving can lead to higher life satisfaction among caregivers [42], it is crucial for healthcare professionals to encourage caregivers to appreciate the value of their contributions.

This study has several limitations. First, information about persons living with dementia was not collected in this study. As the severity or behavioral and psychological symptoms of dementia can impact caregivers' burden and life satisfaction, future studies will need to consider including information about care recipients living with dementia. Another limitation is that information on caregivers' duration of care was not considered in this study. Because caregivers may experience poorer life satisfaction when the care is prolonged, future studies will need to consider including this as a variable. Finally, since this study recruited participants through convenience sampling within one city in South Korea, the results should be interpreted with caution.

Despite these limitations, this study has several strengths. First, it investigated not only informal support but also formal support services available to determine which support contributes to life satisfaction. As limited information is available on the relationship between formal care support and life satisfaction, this study fills the gap of the literature. Second, although many previous studies have identified caregiving burden as a factor affecting life satisfaction, the significance of this study lies in its detailed comparison and analysis of the differences across subdimensions. Therefore, the findings can be used as evidence for developing nursing intervention programs for caregivers of persons with dementia, focusing on strategies to cope with negative changes in the caregiver-recipient relationship and manage psychological burdens.

Given that caregiver life satisfaction affects both caregivers and those they care for, understanding the factors that influence it is essential. This study is particularly meaningful as it examined these factors within the specific context of Korean Long-Term Care Insurance and local dementia centers in South Korea.

Conclusions

The life satisfaction of family caregivers of persons living with dementia is important for the caregivers as well as for the care recipients. As informal support can improve caregiver life satisfaction, ways to maximize the informal support system use should be considered. In addition, policies increasing the formal support of caregivers should be considered. Additionally, the results of this study indicate that negative changes in the relationship between caregivers and persons living with dementia and psychological burden lower caregiver life satisfaction. Therefore, evidence-based nursing intervention programs aimed at improving the relationship and reducing psychological burden should be widely implemented for family caregivers of persons living with dementia.

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Conflict of interest

There was no conflict of interest.

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None.

Authors' contributions

Seonho Choi contributed to conceptualization, data curation, formal analysis, and writing - original draft. Yeji Hwang contributed to writing - original draft, review & editing. Eui Young Cho contributed to conceptualization, methodology, writing - review & editing, and supervision.

Data availability

Describe the availability of the study data and the appropriate URL, if available. Or note how data can be made available such as follows: The data that support the findings of this study are available on reasonable request from the corresponding author, EC. The data are not publicly available due to ethical restrictions.

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