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ORIGINAL RESEARCH

Types of Empathy Among Certified Caregivers of Older Adults with Dementia

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Purpose: This study identifies the unique phenomena and subjectivity of empathy as exhibited by certified caregivers.

Methods: Q-methodology was used to define types and describe the characteristics of empathy in certified caregivers. After in-depth interviews with 10 certified caregivers and a review of the related literature, the final 38 Q-samples were selected by collecting experts' opinions. These Q-samples were sorted by 30 certified caregivers (P-samples). The PC-QUNAL program was used to analyze the Q-sort data.

Results: Seven distinctive Q-factors for the empathy of certified caregivers were identified: I. Information-oriented cognition, II. Sensory communication, III. Compassion, IV. Performance-seeking through self-reflection, V. Intuitive empathy, VI. Role-centered sincerity, and VII. Passive obligation. The empathy of certified caregivers caring for older adults with dementia showed various characteristics according to each of their subjective values and judgments.

Conclusion: This study's results help identify the empathy types and characteristics of certified caregivers caring for older adults with dementia and may contribute to improving the quality of care.

Keywords: aged care, caregiving, nursing home, Q-methodology, quality of care

Introduction

Empathy is the ability to understand, share, and respond appropriately to the emotional state of another person. Its multiple facets can be categorized into emotional empathy and cognitive empathy: Emotional empathy is the ability to resonate with or share the emotional state of another person, and cognitive empathy is the ability to sense and understand the emotions of another person.[1–4] Empathy is a phenomenon that occurs when an individual's cognitive and emotional characteristics work together; additionally, the expression of empathy varies depending on an individual's inclination and characteristics of interaction. Empathy helps individuals provide quality care during treatment and positively affects job performance among caregivers and patients' health outcomes. It is crucial in a caregiving environment because specialized knowledge and attitude alone are insufficient to understand and provide care for the specific and sensitive inner aspects of a care recipient.[1–4] Furthermore, empathy serves as a therapeutic tool, enabling close and effective communication with the care recipient and providing them with a sense of stability through deeper and more comprehensive assessment and understanding.[5] Empathy is partially measured by assessing empathy fatigue and satisfaction; however, this measurement approach is limited because it does not cover all aspects of cognitive and emotional empathy.[4]

In the case of family caregivers for patients with mental illnesses, emotional empathy is the main aspect of empathy in the relationship. The empathic sharing of the pain and problems associated with mental illnesses that are experienced by the patient may have negative consequences for caregivers' mental health.[6] Additionally, health professionals with developed emotional empathy tend to share and attune to the pain of the patients, and their exposure to negative emotions may cause burnout and severe emotional exhaustion.[7,8] However, health professionals with highly developed cognitive empathy are associated with the delivery of high-quality medical care.[7,8]

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The prevalence of dementia in Korea has rapidly increased in line with population aging, with a reported increase from 8.1% (about 420,000 patients) in 2008 to 10.8% (about 760,000 patients) in 2018. In 2050, the prevalence is predicted to reach 15% (about 3 million patients).[9,10] The introduction of the Long-Term Care Insurance System in 2008 established the formal training of certified caregivers as caregiving professionals. As of 2015, these certified caregivers were reported to spend the longest duration of time with dementia patients and provide basic care, accounting for 93.7% of people working in long-term care facilities.[11] Certified caregivers are responsible for caregiving for 46.7% of the patients with cognitive impairment such as dementia.[11] Since caregivers provide direct care and assistance for dementia patients through physical activity, activities of daily living, and personal activity support, including emotional support, the quality of care may vary greatly depending on their values, beliefs, and abilities.[11]

Empathy in caring for older adults with dementia allows caregivers to freely express and communicate their emotions, and experience self-worth and reduced stress.[12] In this way, the human dignity and functions of older adults with dementia are maintained and respected.[13] Studies on empathy have mainly focused on family members caring for older adults with dementia and nurses in nursing homes.[9] The cognitive and emotional attributes of nurses' empathy are reflected in the clinical practice of nursing care for older adults with dementia, and various empathic responses are practiced to resolve problems and provide adequate support for older adults.[9] The empathic ability of nurses positively affects their attitude toward caring for older adults with dementia, enabling effective communication with the patients and improving the quality and outcome of the nursing care.[14] Additionally, the level of empathy of certified caregivers and family members is related to providing a sense of stability to older adults with dementia and improving the quality of care.[15] Therefore, the importance of empathy is increasingly emphasized in caring for older adults with dementia.

Certified caregivers may experience empathy fatigue due to the anxiety, guilt, and depression they may feel in the process of caring for older adults with dementia. This can affect the job stress they experience.[16] Additionally, although empathy is recognized as a basic attribute and a natural duty that is crucial in the process of caregiving,[17] in some cases, certified caregivers may consider changing or leaving their jobs due to the empathy fatigue and stress they experience.[16] Certified caregivers that provide services for older adults with dementia, who have difficulty communicating their thoughts and a reduced ability to form interpersonal relationships, require a much higher level of energy to build relationships of trust and empathy with their patients than those who care for other types of patients.[18]

Previous studies have partially included caregivers as a profession within the scope of care providers,[19] explored the association between empathy fatigue and knowledge and attitudes toward dementia, and examined the extent to which empathy fatigue influences job stress.[6,16] However, caregivers' empathy is a unique phenomenon that involves subjectivity. Empathy is a complex concept that includes cognitive and emotional attributes and is a process of subjective cognition that occurs in a mutual relationship with a client. There is a limit to attempting to understand the unique phenomenon and subjectivity of the empathy exhibited by certified caregivers through quantitative research methods alone. Consequently, there is a pressing need for more in-depth investigation and discussion regarding the empathy of certified caregivers of dementia patients.

Q-methodology is a method of researching human subjectivity. It is not a research framework in which human subjectivity, such as feelings, emotions, and attitudes, is structured by observers; instead, it explores human nature and social phenomena through studying a voluntary process undertaken by the subject. Q-methodology can be a valuable method to help certified caregivers who care for dementia patients understand empathy. Therefore, this study attempted to understand the diversity of empathy by applying Q-methodology to classify the types of empathy of nursing caregivers caring for dementia patients, interpret the characteristics of each type of empathy, and confirm its subjective cognitive structure. The study's results can help establish a basic strategy to strengthen the empathic capacity of certified caregivers in the future.

Materials and Methods

This exploratory study applied Q-methodology to identify the perceived types of empathy among certified caregivers of older adults with dementia and describe the characteristics of each identified type. Q-methodology involves making a Q-statement for the composition of the Q-population, recruiting the P-sample, reading the Q-statement and classifying

the degree of agreement or disagreement, Q-analysis, and interpreting the results. Each step of this process is described below.

Q-Population and Q-Sampling

The Q-population is a set of all the Q-statements. Each Q-statement should be self-referential to the respondent, so that they can read and classify it according to their thoughts. Interviews can be the most appropriate method for undertaking this process.[5] As a first step, the Q-population was constructed based on an in-depth interview with certified caregivers and the literature related to empathy with older adults with dementia.[9,14] Ten participants were recruited for in-depth interviews through purposive and snowball sampling. They included caregivers with at least one year of career experience caring for older adults with dementia at two nursing homes, one in-home care service, and one daycare center located in W City, South Korea. The one-on-one in-depth interviews were conducted from June 25, 2020, to December 30, 2020, and lasted from 50 to 90 minutes. Through semi-structured questions, we explored the certified caregivers' process of subjective judgment regarding their empathy with older adults with dementia and their experiences of empathy-related behavioral patterns.

Through an analysis of the interview content and field notes, 148 Q-statements related to the empathy of certified caregivers caring for old adults with dementia were extracted. These Q-statements formed the Q-population. Among the Q-population, Q-statements that were categorized as overlapping or similar subjects were refined and further elaborated upon through a review process undertaken by one professor in geriatric nursing, one Q-methodology expert, and one expert with a doctorate in Korean literature. A total of 38 Q-samples were extracted through an unstructured sampling method, in which the most representative of these statements were selected.[20] The Content Validity Index (CVI), a 4-point scale, was evaluated with two heads of nursing homes, two certified caregivers, and one professor in geriatric nursing. All 38 CVIs of the extracted Q-statements were 0.76 or higher, and the average CVI value was 0.87. For the reliability testing of the Q-statements, the correlation coefficient between the Q-sorting was evaluated.[20] After four certified caregivers performed the first Q-sorting, the first caregiver performed the second Q-sorting immediately after, the second caregiver one day later, the third caregiver one day later, and the fourth caregiver one week later. The correlation coefficients were 0.7 or higher, which was considered a sufficiently reliable sample, with an average value of 0.80.

P-Sample

A P-sample includes participants who read the Q-sample and perform Q-classification, that is, classifying the Q-sample according to whether they agree or disagree.[20,21] In this study, certified caregivers with more than one year of experience in caring for older adults with dementia were selected as the P-sample. The larger the number of factors in the research concept, the larger the P-sample that is required. However, when the P-sample exceeds 100, the scores of each Q-item are regressed to the average value, and the subsequent factors are biased into one or two factors, resulting in an extreme limitation of the number of factors.[20] n=40±20 is generally recommended for the size of a P-sample.[17] According to the principle of small samples, 30 certified caregivers were selected as this study's P-sample.

Q-Sorting

Q-sorting involves setting the scores and the number of cards for each score to be normally distributed, reading each Q-statement to the participant, ranking the degree of agreement and disagreement, and classifying the statements according to the set number of cards. The participants read the statements selected as the Q-sample and classified them into agree, disagree, or neutral according to their subjective views and values. Each item formed a forced quasi-distribution. In the Q-distribution, moving from left to right signified a change from "strong disagreement" to "strong agreement" (Figure 1).[20]

The Q-sorting process proceeded as follows. The P-sample read the 38 cards written individually by the Q-sample and classified the statements according to whether they agreed, disagreed, or felt neutral. Among the statements that the P-sample agreed with, two cards with the most agreement (9 points) were selected, followed by four cards with a slightly lower ranking of agreement (8 points) and five cards with an even lower level of agreement (7 points). The remaining

Figure 1 Q-distribution.

eight cards were classified as neutral and assigned 5 points (Figure 1). After sorting, to extract useful information for the interpretation of the Q-factors, the P-sample was asked additional questions about their reasoning and their feelings regarding the sorting of the statements that were placed on the extremes of "agree" and "disagree" in the distribution. Q-sorting was conducted from April 29 to May 6, 2021.

Q-Analysis

For the 38 Q-statements, the item with the strongest disagreement was scored with 1 point, and 1 point was added as the degree of disagreement weakened; accordingly, the item with the strongest agreement was given 9 points. After entering these scores into the data file, Q-factor analysis was performed using the standard score (Z-score) and principal component factor analysis of each item through the PC-QUANL program. To determine the most ideal number of factors, from the results obtained by entering different numbers of factors with eigenvalues ≥1.0, considering variance, cumulative variance, and the attributes of the perceptions of empathy of the certified caregivers for older adults with dementia, the types judged to be the most reasonable Q-factors were selected.

Ethical Considerations

Data were collected after obtaining approval from the Institutional Review Board of Gangneung-Wonju National University (GWNUIRB-2020-22, 2021–17). All methods were carried out in accordance with relevant guidelines and regulations. Before data collection commenced, all participants were informed of the study purpose, method, privacy policy, and confidentiality, and that participation was voluntary and they could withdraw at any time. Written informed consent was obtained from all the participants for the participation in this study and publication of the anonymized responses.

Results

Defining the characteristics of the empathy types derived from the Q-analysis involved a comprehensive interpretation of the Q-statements with which each type agreed or disagreed, the characteristics of the statements that one type agreed more or less with than the other types, and the contents of the interviews with the P-sample belonging to each type. The types of empathy and their characteristics that are described in the following sections express the subjectivity of the caregivers' empathy for older adults with dementia.

Characteristics of the Q-Types and the P-Sample by Type

The empathy types of the certified caregivers were classified into four factors and seven types. Specifically, 43.87% of factor I was negatively perceived to form type I and type V, 41.58% of factor III was negatively perceived to form type III and type VI, and 28.17% of factor IV was negatively perceived to form type IV and type VII. The formation of two types from one factor indicates that when a factor is loaded, two independent types are formed due to the conflicting status of the agreement among the members.[20] Four factors accounted for 54.86% of the total variance, and the explanatory power of each factor was 35.66% for factor I, 7.83% for factor II, 6.07% for factor III, and 5.31% for factor IV. The characteristics and factor weights of the P-sample by type are presented in Table 1. A P-sample with high factor weights indicates a participant who clearly showed the characteristics of the type.[21]

Table 1 Characteristics and Factor Weights of P Samples by Types

Type (n)	ID	Gender	Age	Marital Status	Religion	Education Level	Workplace	Career as a Caregiver	Factor Weights
Type I (N=4)	6	F	55	Unmarried	None	College	Daycare center	2Y	0.4653
	14	F	47	Married	None	College	Daycare center	3Y5M	0.6749
	24	F	59	Married	Religious	Elementary school	Nursing home	4Y8M	0.2977
	30[a]	F	63	Married	Religious	Middle school	Nursing home	8Y	1.0963
Type II (N=6)	3	F	50	Married	Religious	High school	Nursing home	4Y6M	0.6245
	8[a]	M	33	Unmarried	Religious	College	Daycare center	4Y2M	1.2898
	9	M	49	Divorced	None	Middle school	Daycare center	8Y6M	0.6485
	15	F	39	Unmarried	Religious	College	Daycare center	1Y10M	0.4228
	18	F	50	Married	None	High school	Daycare center	2Y	0.5751
	20	F	68	Married	None	Elementary school	In-home care service	9Y3M	0.7858
Type III (N=3)	16[a]	F	45	Married	Religious	College	In-home care service	1Y4M	1.1756
	22	F	49	Bereaved	Religious	High school	Nursing home	1Y8M	0.4152
	27	F	60	Married	Religious	High school	Nursing home	6Y8M	0.6679
Type IV (N=8)	4	F	48	Married	None	High school	Nursing home	3Y2M	0.4299
	5	F	50	Married	None	Middle school	In-home care service	2Y	0.2830
	7	M	48	Married	Religious	College	Daycare center	5Y	0.6933
	11	F	47	Married	None	College	Nursing home	6Y	0.4655
	12	F	52	Married	Religious	College	Daycare center	7Y3M	0.2398
	19	F	51	Married	Religious	High school	Nursing home	6Y	0.5177
	23[a]	F	56	Divorced	Religious	High school	Nursing home	13Y6M	0.7594
	29	F	57	Married	Religious	High school	Nursing home	3Y	0.3857
Type V (N=2)	21	F	62	Bereaved	Religious	Middle school	In-home care service	8Y	0.6759
	26[a]	F	52	Married	Religious	High school	Daycare center	1Y4M	1.1421
Type VI (N=3)	1	F	62	Divorced	None	High school	Nursing home	1Y6M	0.2077
	17	M	52	Married	Religious	College	In-home care service	5Y7M	0.7013
	28[a]	F	59	Bereaved	Religious	Elementary school	Nursing home	4Y	0.7390

(*Continued*)

Table 1 (Continued).

Type (n) ID		Gender	Age	Marital Status	Religion	Education Level	Workplace	Career as a Caregiver	Factor Weights
Type VII (N=4)	2	F	62	Divorced	Religious	High school	In-home care service	3Y	0.4026
	10	F	60	Married	Religious	Middle school	Nursing home	9Y4M	0.2610
	13[a]	F	51	Married	None	Middle school	Daycare center	3Y7M	0.5664
	25	M	54	Married	Religious	College	Daycare center	7Y	0.3324

Notes: [a]Participant with the highest value factor weight.
Abbreviations: ID, Identification; I, Information-oriented cognition; II, Sensory communication; III, Compassion; IV, Performance-seeking through self-reflection; V, Intuitive empathy; VI, Role-Centered sincerity; VII, Passive obligation; M, Male; F, Female; Y, Years; M, Months.

Type I: Information-Oriented Cognition

The statement with which participants of type I showed the strongest agreement was Q1, "This work can only be accomplished with a sincere and caring heart for the older adults with dementia" (Z=2.39). The item with which type I participants most strongly disagreed was Q4, "Even if an older adult with dementia expresses words and actions incomprehensibly, I can recognize what they are trying to say or do" (Z=−1.72) (Table 2).

The statements with which type I participants showed a higher level of agreement compared to those of other types were Q38 (Z diff = 1.96), Q8 (Z diff=1.77), and Q1 (Z diff =1.50). However, the statements with which type I participants showed a lower level of agreement compared to participants of other types were Q29 (Z diff=−2.25), Q10 (Z diff=−1.55), and Q4 (Z diff=−1.52) (Table 3).

Table 2 Z-Score by Type

Q Statement		Z-Score by Type						
		I	II	III	IV	V	VI	VII
Q1	This work can only be accomplished with a sincere and caring heart for the older adults with dementia.	2.39	0.47	1.79	1.07	1.05	2.11	−1.17
Q2	Knowing what the older adults with dementia liked or did during their younger years helps to understand their lives.	−0.03	1.69	−1.34	0.71	0.24	1.97	−0.33
Q3	It becomes tedious and exhausting when an older adult with dementia repeatedly says the same thing.	−0.40	−0.97	−2.20	−1.74	−0.15	−1.28	2.96
Q4	Even if an older adult with dementia expresses words and actions in an incomprehensible way, I can recognize what they are trying to say or do.	−1.72	−0.83	−0.70	−0.89	1.45	−0.55	0.33
Q5	As the conditions of the older adults with dementia may change from day to day, they must be monitored and asked frequently about their state.	0.14	1.76	0.47	0.97	0.24	1.21	0.46
Q6	The older adults with dementia rely more on a caregiver who can understand them.	−0.45	−0.08	0.02	0.85	0.24	0.93	0.48
Q7	I feel sorry for the older adults with dementia who have the loving heart of a parent and do not criticize their children, even though their family members do not visit as it is difficult to care for them.	−0.62	1.18	0.59	−0.20	0.55	1.30	−0.29
Q8	I believe older adults with dementia feel good when a caregiver often checks on them and tries to converse.	1.60	0.04	−0.45	0.76	−0.57	0.72	−1.49

(*Continued*)

Table 2 (Continued).

Q Statement		Z-Score by Type						
		I	II	III	IV	V	VI	VII
Q9	Treating an older adult with dementia as a family member when they recognize me as such makes them more comfortable	−0.83	0.61	0.58	0.02	−0.24	−1.53	1.05
Q10	I believe the older adults with dementia instinctively know whether they are loved or hated.	−1.06	0.33	0.45	1.67	1.77	−0.46	−0.85
Q11	There must be a reason when an older adult with dementia behaves forcefully or is irritated. Therefore, I try to find the reason.	0.34	−0.60	0.12	1.13	1.12	1.54	−0.50
Q12	Making physical contact while maintaining an appropriate distance by understanding the gender and the personal characteristics of the older adults with dementia calms them.	0.04	1.40	−0.99	−0.19	−1.05	0.33	0.06
Q13	When the older adults with dementia tell me secrets or their innermost feelings, which they do not even share with their family, it feels rewarding because it is like they believe in me.	−0.49	0.29	0.12	0.10	1.53	−0.004	0.28
Q14	When the older adults with dementia suddenly wander around at night and act violently, I feel scared and avoid them.	−1.60	−1.54	−1.23	−1.98	−0.55	−0.40	−0.03
Q15	When I see the older adults with dementia pack delicious food because they want to give it to their children, I can feel the heart of a parent.	0.32	0.30	1.29	−0.25	0.72	−0.97	1.25
Q16	When I see the older adults with dementia sleep soundly, although they do not usually sleep well, or respond to programs (eg, clapping) despite their being irresponsive in the past, it feels as if I am being rewarded for caring for them.	0.45	0.47	−1.09	−0.25	0.48	0.44	0.81
Q17	When I see an older adult with dementia who shows sexually abnormal behaviors, such as making sexual comments or brushing past my body, it is distressing, and I avoid them.	0.02	−1.43	−0.41	−1.85	−1.12	−1.04	−0.05
Q18	I feel that the older adults with dementia read my heart and know that I want to do my best.	0.05	0.34	1.65	0.48	1.69	−1.85	−0.85
Q19	The older adults with dementia who are violent are difficult to understand and are angry, so I only want to provide the necessary help and avoid them otherwise.	−1.13	−1.74	−1.54	−1.71	−0.31	−1.71	1.66
Q20	The older adults with dementia are like children. When I suggest dislike, they seem to notice my feelings.	−0.18	−0.18	−0.49	0.05	0.07	−0.18	−0.39
Q21	I think that knowing about the past personality, tendencies, environment, and the daily life of the older adults with dementia helps in interactions with them.	1.18	0.72	0.26	0.59	−1.21	0.59	−0.90
Q22	Abruptly responding to the older adults with dementia with "do not do that" or "just stay still" worsens their abnormal behaviors.	1.56	−1.75	0.85	1.58	−0.72	−0.25	−1.93
Q23	When the older adults with dementia do not speak, I notice their discomfort and check on them regularly to help and observe whether there is anything different from the usual.	1.28	0.69	0.58	0.89	−1.86	0.34	−0.90
Q24	When an older adult with dementia swears or insults me, I get angry because I do not know why they are doing it.	−0.77	−2.38	−2.03	−2.06	−0.07	−1.43	0.59

(*Continued*)

Table 2 (Continued).

Q Statement		Z-Score by Type						
		I	II	III	IV	V	VI	VII
Q25	I feel uncomfortable when I isolate or scold violent older adults with dementia.	0.02	−0.93	0.50	−1.01	−0.88	0.26	1.40
Q26	If I see the older adults with dementia get embarrassed when changing diapers or trying not to spill when eating, I feel that they also have a sense of self-esteem.	0.81	0.18	−0.08	0.99	−1.05	0.92	−0.73
Q27	When I see an older adult with dementia, I feel as if they are my parents and my future.	−0.40	1.35	1.09	0.53	−0.24	−0.15	0.75
Q28	Although I care for them with sincerity, it is difficult to get along well with all the older adults with dementia.	−0.93	−1.55	−1.54	−1.20	0.74	−0.31	0.27
Q29	When the older adults with dementia lift their backside during diaper change, I feel they are being considerate of me.	−1.52	0.23	−0.14	0.52	1.62	0.95	1.21
Q30	It is important to promptly notice physical discomfort to know the emotional state of the older adults with dementia (sensitivity to verbal and nonverbal postures).	0.15	0.01	0.35	0.52	−0.74	−0.61	−0.48
Q31	I feel sad when I see the older adults with dementia constantly call their children's names daily because I understand how a mother feels.	−0.24	0.65	1.77	−0.27	0.40	−0.02	0.66
Q32	When I see the older adults with dementia pack their bags every day saying they will go home, pretending to be fine so their family does not have a hard time, I can feel their consideration for their children.	0.67	0.60	1.23	−0.60	−0.64	−1.04	0.11
Q33	Even when an older adult with dementia does not say it out loud, I feel like we understand each other when they smile, make eye contact, or greet me.	−0.97	1.12	0.31	0.61	−0.40	1.11	−1.40
Q34	Even the older adults with dementia who are anxious and unresponsive begin to feel comfortable when they get used to being around others.	1.02	0.37	0.19	0.12	0.40	0.46	−0.46
Q35	The older adults with dementia who are violent appear to be sorry when they feel that they have hurt others once they calm down and settle.	−1.29	−0.41	−0.82	−0.11	1.62	−1.10	−1.40
Q36	I think it is better not to be too sensitive to the behaviors of the older adults with dementia.	1.14	−0.47	0.04	−0.26	−1.69	0.58	1.03
Q37	When the older adults with dementia mistreat caregivers and are told that such behavior is wrong, they apologize, and it feels like we were able to communicate.	−0.52	−0.50	−0.14	−0.87	−0.81	−0.30	−0.67
Q38	Being older adults with dementia does not mean they have lost all their memories. They are able to discern what they like and dislike.	1.97	0.54	0.93	1.30	−1.62	−0.55	−0.56

Participant No. 30, who had the highest value factor weight (1.0963), commented:

> I think that for this job, information about the older adults with dementia needs to be acquired in advance. I have been told that there are countless symptoms of dementia out there. Unless I listen to them, watch materials, or study and prepare for the job, I will only find myself shouting or bickering with the older adults every day.

Type 1 participants tended to emphasize acquiring information and learning for proper interactions and forming empathy with older adults with dementia. They showed the characteristics of collecting information on the patients' characters before the onset of dementia, their current state, and their preferences, as well as continuing to learn about the various

Table 3 Top Three Q-Statements in Which Each Type of Participant Agreed/Disagreed More Than Other Types

Type	No	Q-Statements	Z-Score	Average	Difference
I	38	Being older adults with dementia does not mean they have lost all their memories. They are able to discern what they like and dislike.	1.97	0.01	1.96
	8	I believe older adults with dementia feel better when a caregiver often checks on them and tries to converse.	1.60	−0.16	1.77
	1	This work can only be accomplished with a sincere and caring heart for the older adults with dementia.	2.39	0.89	1.50
	4	Even if an older adult with dementia expresses words and actions in an incomprehensible way, I can recognize what they are trying to say or do.	−1.72	−0.20	−1.52
	10	I believe the older adults with dementia instinctively know whether they are loved or hated.	−1.06	0.49	−1.55
	29	When the older adults with dementia lift their backside during diaper change, I feel they are being considerate of me.	−1.52	0.73	−2.25
II	12	Making physical contact while maintaining an appropriate distance by understanding the gender and the personal characteristics of the older adults with dementia calms them.	1.40	−0.30	1.70
	33	Even when an older adult with dementia does not say it out loud, I feel like we understand each other when they smile, make eye contact, or greet me.	1.12	−0.12	1.24
	5	As the conditions of the older adults with dementia may change from day to day, they must be monitored and asked frequently about their state.	1.76	0.58	1.17
	19	The older adults with dementia who are violent are difficult to understand and are angry, so I only want to provide the necessary help and avoid them otherwise.	−1.74	−0.79	−0.95
	28	Although I care for them with sincerity, it is difficult to get along well with all the older adults with dementia.	−1.55	−0.50	−1.06
	11	There must be a reason when an older adult with dementia behaves forcefully or is irritated. Therefore, I try to find the reason.	−0.60	0.63	−1.20
III	31	I feel sad when I see the older adults with dementia constantly call their children's names daily because I understand how a mother feels.	1.77	0.20	1.57
	32	When I see the older adults with dementia pack their bags every day saying they will go home, pretending to be fine so their family does not have a hard time, I can feel their consideration for their children.	1.23	−0.15	1.38
	15	When I see the older adults with dementia pack delicious food because they want to give it to their children, I can feel the heart of a parent.	1.29	0.23	1.06
	16	When I see the older adults with dementia sleep soundly, although they do not usually sleep well, or respond to programs (eg, clapping) despite their being irresponsive in the past, it feels as if I am being rewarded for caring for them.	−1.09	0.40	−1.49
	3	It becomes tedious and exhausting when an older adult with dementia says the same thing repeatedly.	−2.20	−0.26	−1.93
	2	Knowing what the older adults with dementia liked or did during their younger years helps to understand their lives.	−1.34	0.71	−2.05

(*Continued*)

Table 3 (Continued).

Type	No	Q-Statements	Z-Score	Average	Difference
IV	22	Abruptly responding to the older adults with dementia with "do not do that" or "just stay still" worsens their abnormal behaviors.	1.58	−0.37	1.95
	26	If I see the older adults with dementia be embarrassed when changing diapers or trying not to spill when eating, I feel that they also have a sense of self-esteem.	0.99	0.01	0.98
	30	It is important to promptly notice physical discomfort to know the emotional state of the older adults with dementia (sensitivity to verbal and nonverbal postures).	0.52	−0.22	0.74
	25	I feel uncomfortable when I isolate or scold violent older adults with dementia.	−1.01	0.06	−1.07
	14	When the older adults with dementia suddenly wander around at night and act violently, I feel scared and avoid them.	−1.98	−0.89	−1.09
	17	When I see an older adult with dementia who shows sexually abnormal behaviors, such as making sexual comments or brushing past my body, it is distressing, and I avoid them.	−1.86	−0.67	−1.18
V	35	The older adults with dementia who are violent appear to be sorry when they feel that they have hurt others once they calm down and settle.	1.62	−0.86	2.48
	4	Even if an older adult with dementia expresses words and actions in an incomprehensible way, I can recognize what they are trying to say or do.	1.45	−0.73	2.18
	10	I believe the older adults with dementia instinctively know whether they are loved or hated.	1.77	0.01	1.76
	36	I think it is better not to be too sensitive to the behaviors of the older adults with dementia.	−1.70	0.34	−2.04
	38	Being older adults with dementia does not mean they have lost all their memories. They are able to discern what they like and dislike.	−1.62	0.60	−2.22
	23	When the older adults with dementia do not speak, I notice their discomfort and check on them regularly to help and observe whether there is anything that differs from the usual.	−1.86	0.48	−2.34
VI	2	Knowing what the older adults with dementia liked or did during their younger years helps us understand their lives.	1.97	0.16	1.81
	11	There must be a reason when an older adult with dementia behaves violently or is irritated. Therefore, I try to find the reason.	1.54	0.27	1.27
	7	I feel sorry for the older adults with dementia who have the loving heart of a parent and do not criticize their children, even though their family members do not visit them due to the difficulty of caring for them.	1.30	0.20	1.10
	15	When I see the older adults with dementia store delicious food because they want to give it to their children, I can feel the heart of a parent within them.	−0.97	0.61	−1.57
	9	Treating an older adult with dementia as a family member when they recognize me as such makes them more comfortable	−1.53	0.20	−1.73
	18	I feel that the older adults with dementia are able to read my feelings and know that I want to do my best.	−1.85	0.56	−2.41

(*Continued*)

Table 3 (Continued).

Type	No	Q-Statements	Z-Score	Average	Difference
VII	3	It becomes tedious and exhausting when an older adult with dementia says the same thing repeatedly.	2.96	−1.12	4.08
	19	The older adults with dementia who are violent are difficult to understand and are angry, so I only want to provide the necessary help and avoid them otherwise.	1.66	−1.36	3.02
	24	When an older adult with dementia swears or insults me, I get angry because I do not know why they are doing it.	0.59	−1.46	2.05
	8	I believe older adults with dementia feel good when a caregiver often checks on them and tries to converse.	−1.49	0.35	−1.84
	22	Abruptly responding to the older adults with dementia with "do not do that" or "just stay still" worsens their abnormal behaviors.	−1.93	0.21	−2.14
	1	This work can only be accomplished with sincerity and a caring heart for the older adults with dementia.	−1.17	1.48	−2.65

symptoms of dementia to better understand the symptoms exhibited by older adults. Therefore, type I was named the "Information-oriented Cognition" type.

Type II: Sensory Communication

The statement with which participants of type II showed the strongest agreement was Q5, "As the condition of older adults with dementia may change from day to day, they must be monitored and asked frequently about their state" (Z=1.76). The statement with which type II participants most strongly disagreed was Q19, "Older adults with dementia who are violent are difficult to understand and are angry, so I only want to provide the necessary help and avoid them otherwise" (Z=−1.74) (Table 2).

The statements with which type II participants showed a higher level of agreement compared to the participants of other types were Q12 (Z diff=1.70), Q33 (Z diff=1.24), and Q5 (Z diff=1.17). However, the statements with which type II participants showed a lower level of agreement compared to the participants of other types were Q11 (Z diff=−1.20), Q28 (Z diff=−1.06), and Q19 (Z diff=−.95) (Table 3).

Participant No. 8, who had the highest value factor weight (1.2898), commented:

> I am continuously making efforts, step-by-step, to make more eye contact and have more conversations with the older adults! In my work, there are occasions when a patient bursts out in anger or even swears. I know that they all have their reasons for such behavior. If I had paid more attention and had been more sensitive, I would have known what the problem was.

To understand older adults with dementia, type II participants made sensory observations of their physical and emotional states. They frequently asked questions to monitor the older adults and valued communication. Additionally, certified caregivers of this type actively made use of various senses, such as physical touch and contact, to encourage the psychological assurance and stability of the older adults. Therefore, type II was named the "Sensory Communication" type.

Type III: Compassion

The statement with which participants of type III showed the strongest agreement was Q31, "I feel sad when I see the older adults with dementia constantly call their children's names daily because I understand how a mother feels" (Z=1.77). However, the statement with which participants of type III most strongly disagreed was Q3, "It becomes tedious and exhausting when an older adult with dementia repeatedly says the same thing" (Z=−2.20) (Table 2).

The statements with which type III participants showed a higher level of agreement compared to the participants of other types were Q31 (Z diff = 1.57), Q32 (Z diff=1.38), and Q15 (Z diff=1.06). However, the statements with which type III participants most strongly disagreed compared to participants of other types were Q2 (Z diff=−2.05), Q3 (Z diff=−1.93), and Q16 (Z diff=−1.49) (Table 3).

Participant No. 16, who had the highest value factor weight (1.1756), commented:

> When older adults are in a poor condition, they sometimes cry while calling out the names of their children and express feelings of heartbreak. There have been occasions when I cried with them, since I also have children and feel really sorry for the patients…. Older adults tend to repeat the same words again and again. They usually continue to pester us, saying that they have not yet eaten. Those moments are indeed difficult. However, when you think about it, those are the moments when I feel really sorry for them….

Type III participants showed the characteristics of considering older adults with dementia in the same position as their parents and feeling sorry for them, going beyond the patient–caregiver relationship. There were many emotional expressions of accepting older adults with dementia with a kind heart. These participants also demonstrated a tendency to attempt to relieve their guilt for not having been able to care for their parents properly in the past by treating older adults with dementia as if they were their own parents. Accordingly, type III was named the "Compassion" type.

Type IV: Performance-Seeking Through Self-Reflection

The statement with which participants of type IV showed the strongest agreement was Q22, "Abruptly responding to older adults with dementia with 'do not do that' or 'just stay still' worsens their abnormal behaviors" (Z=1.58). The statement with which type IV participants most strongly disagreed was Q14, "When older adults with dementia suddenly wander around at night and act violently, I feel scared and avoid them" (Z=−1.98) (Table 2).

The statements with which type IV participants showed a higher level of agreement compared to the participants of other types were Q22 (Z diff=1.95), Q26 (Z diff=0.98), and Q30 (Z diff=0.74). However, the statements with which they showed a lower level of agreement compared to the participants of other types were Q17 (Z diff=−1.18), Q14 (Z diff=−1.09), and Q25 (Z diff=−1.07) (Table 3).

Participant No. 23, who had the highest value factor weight (0.7594), commented:

> I tend to think, "What could be the reason that the older adult was angry at that time?" I tend to feel disappointed in myself for not noticing the reason for their anger before it happened. Therefore, I pay close attention to all the details of the conversations I had with family members or informal caregivers, as well as small events, so that I do not miss out on important information….

Type IV had the understanding that the symptoms of older adults with dementia are natural symptoms that can occur because of their condition. Since restricting every behavior of older adults with dementia is not helpful, they permitted some of the actions of the older adults with dementia in some limited situations. They had respect for their patients as human beings with dignity, and they considered that an understanding of dementia symptoms is a basic requirement of their job. They were well aware of the tasks required of certified caregivers; they monitored and checked at all times and performed caregiving with a sense of responsibility, setting an example through their performance. They tended to consider the condition of older adults with dementia as their own responsibility and made efforts to maintain the best conditions for these patients. Accordingly, type IV was named the "Performance-seeking through Self-reflection" type.

Type V: Intuitive Empathy

The statement with which participants of type V showed the strongest agreement was Q10, "I believe older adults with dementia instinctively know whether they are loved or hated" (Z=1.77). However, the statement with which participants of type V most strongly disagreed was Q36, "I think it is better not to be too sensitive to the behaviors of older adults with dementia" (Z=−1.69) (Table 2).

The statements with which type V participants showed a higher level of agreement compared to the participants of other types were Q35 (Z diff=2.48), Q4 (Z diff=2.18), and Q10 (Z diff=1.76). However, the statements with which they

showed a lower level of agreement compared to the participants of other types were Q23 (Z diff =−2.34), Q38 (Z diff= −2.22), and Q36 (Z diff=−2.04) (Table 3).

Participant No. 26, who had the highest value factor weight (1.1421), commented:

> I think that caregivers should closely monitor and observe the behavior or responses of the patients … whenever you spot their discomfort, you should deal with it immediately. They sometimes look gloomy, are unable to concentrate, and go to the bathroom multiple times in a row…. I have learned that whenever I discover these symptoms, I should take immediate action with whatever comfort I can offer them. I stick to these rules faithfully.

Type V participants showed the characteristics of intuitively grasping and understanding the status of older adults with dementia by observing their behavior or responses. They believed that there was a reason for the behaviors of older adults, were sensitive to even minor behavioral changes within them, and tended to infer the psychological status and unmet needs of older adults from their behaviors. Accordingly, type V was named the "Intuitive Empathy" type.

Type VI: Role-Centered Sincerity

The statement with which participants of type VI showed the strongest agreement was Q2, "Knowing what older adults with dementia liked or did during their younger years helps to understand their lives" (Z=1.97). The item with which type VI participants most strongly disagreed was Q18, "I feel that older adults with dementia can read my heart and know that I want to do my best" (Z=−1.85) (Table 2).

The statements with which type VI participants showed a higher level of agreement compared to the participants of other types were Q2 (Z diff= 1.81), Q11 (Z diff =1.27), and Q7 (Z diff = 1.10). However, the statements with which they showed a lower level of agreement compared to the participants of other types were Q18 (Z diff= −2.41), Q9 (Z diff= −1.73), and Q15 (Z diff=−1.57) (Table 3).

Participant No. 28, who had the highest value factor weight (0.7390), commented:

> I often think that the work of a caregiver is both physically and mentally difficult and demanding. However, I still try to do the job with sincerity, diligence, and a positive mindset. There are many moments when I feel sorry for the older adults with dementia, such as when they miss their children and cry…. However, I am aware that I can never replace their children…. On those occasions, I lightly pat their back … [I give] them some sweets … that's about it, really.

Type VI felt sorry for older adults with dementia but believed that certified caregivers could never replace these older adults' own children. In terms of the caregiver–care recipient relationship, type VI had a clear understanding of the boundaries of their roles and the principles of their work. They believed in sincerely fulfilling their roles. Additionally, they valued making cognitive efforts to understand the lives of older adults with dementia and to identify the causes of their problem behaviors. Accordingly, type VI was named the "Role-centered Sincerity" type.

Type VII: Passive Obligation

The statement with which participants of type VII showed the strongest agreement was Q3, "It becomes tedious and exhausting when an older adult with dementia repeatedly says the same thing" (Z=2.96). The statement with which type VII participants most strongly disagreed was Q22, "Abruptly responding to older adults with dementia with 'do not do that' or 'just stay still' worsens their abnormal behaviors" (Z=−1.93) (Table 2).

The statements with which type VII participants showed a higher level of agreement compared to the participants of other types were Q3 (Z diff=4.08), Q19 (Z diff=3.02), and Q24 (Z diff=2.05). However, the statements with which type VII participants showed a higher level of agreement compared to the participants of other types were Q1 (Z diff =−2.65), Q22 (Z diff=−2.14), and Q8 (Z diff=−1.84) (Table 3).

Participant No. 13, who had the highest value factor weight (0.5664), commented:

> When a patient is in poor condition and makes a scene, the entire center is in chaos, and I do feel that I had a hard day. Naturally, I wish that such events or incidents could be avoided if possible. So, when a patient sits quietly without causing trouble, I leave him or her as they are and do not try to make conversation. That may trigger more chaos …. I watch them as they are, and when they need me, I try to resolve whatever problems they have.

Type VII typically showed a low level of understanding of the behavioral characteristics related to the symptoms of dementia and had a strong tendency to avoid older adults with dementia who had communication difficulties. Their relationship with older adults with dementia was superficial, and they did not try to find meaning or significance in the responses and behavior of these patients; they even thought that responding with sensitivity was not recommendable. They showed a passive and avoidant attitude, taking the position that they would only provide basic assistance for older adults with dementia when a need arose. They accepted caring behaviors simply as a job, which often lead to the impression of them being cold and selfish. They tended to emphasize knowledge-oriented empathy. Therefore, type VII was named the "Passive Obligation" type.

Discussion

Using Q-methodology, this study identified seven types of empathy among certified caregivers caring for patients with dementia. Type I recognized that sincerity is essential in taking care of their patients and tried to understand the source of the patients' problems by learning about them. In this type, the cognitive properties of empathy are clearly revealed. Cognitive empathy refers to the ability to understand the emotional state of others and assume another person's point of view and role.[4] Understanding another person's point of view requires an awareness of their situation.[4,16] For Type I, it may be helpful to provide medical information such as symptoms, prognosis, and coping methods for patients with dementia.

Type II is a sensory communication type. For example, this type of caregiver might use light physical contact to express that they understand and care for an older adult with dementia. Even if communication with the patient is not smooth, they often approach and make eye contact to express their understanding. These results support those of previous studies which have found that it is helpful to read patients' emotions and undertake therapeutic contact, such as gentle touch, to encourage emotional expression.[22] In addition, in this type of empathy for a patient with dementia, a nurse may stay with an anxious patient, support them, and understand the patient's intention.[9] This type believes that patients should be acknowledged and treated warmly, even in difficult situations; therefore, it is necessary to strengthen the cognitive approach to enable them to cope effectively without being exhausted.

Type III is a type in which emotional empathy is prominent; these caregivers felt sorry for the older adults with dementia. This finding is consistent with previous research results that have shown that if a certified caregiver understands the position of a patient with dementia through empathy with them, their caring behavior toward the patient can be improved.[23] In caring for patients with dementia, there is a high possibility that this type of caregiver will experience empathy fatigue as a result of their feelings of empathy toward and sympathy for the patient and, thus, burn out. Therefore, Type III needs a strategy to reduce empathy fatigue and prevent burnout. To reduce empathy fatigue, counseling and psychotherapy through support groups are required within the work environment.[23] Indirect experiences of various cases during caregivers' initial training or on-The-job training can also contribute to preventing empathy fatigue and burnout.

Type IV is a veteran who shows cognitive, emotional, and expressive empathy, trying to understand and communicate all the symptoms of older adults with dementia. During the care process, they identify the needs of the person with dementia and respond confidently. This type respects the older adult with dementia, accepts them as being able to feel emotions, and tries to understand their life. In this process, their satisfaction with their role as a caregiver is high. Empathy satisfaction is a positive emotion experienced when one's job skills are helpful to an organization or society, as observed in previous studies.[19] This type may require strategies to reinforce their strengths relating to high empathy satisfaction.

Type V is a type that sensitively observes and responds to each of patient's action in order to understand the patient's condition, which changes daily when caring for older adults with dementia. This type is similar to Type I in terms of its primary focus on cognitive empathy. However, caregivers of this type attempt to provide care, understand, and empathize based on the patient's response rather than information about or observations of the older adult with dementia. This characteristic has the advantage of responding sensitively to changes in the patient. Nevertheless, the more severe the behavioral and psychological reactions accompanying the symptoms, the more difficult it is to pay attention to each one,

and experiencing burnout is possible. Similar to Type III, it may be necessary to carefully observe the phenomenon of empathy fatigue among Type V caregivers and adopt an educational approach to prevent it.

Type VI is an independent type derived from the same factors as Type III. Unlike Type III, which viewed patients with sympathy, Type VI saw them only as a target of care. This type classified their role as a certified caregiver and attempted to cognitively empathize with the patient to fulfill this role. However, they did not have empathy for the emotions that the patients felt profoundly. Nevertheless, they focused on the functional role of caring for patients as a professional. Empathy empowers individuals with dementia through care that goes beyond simply understanding their situation.[5] Caregivers' empathy is an individual skill and ability that is necessary to reduce difficulties they may experience through an enhanced understanding of older adults with dementia; thus, education aimed at improving their empathy is necessary. If the caregiver accurately understands the patient's emotions, as well as the reactions related to the symptoms of dementia, it can help the patient with dementia feel understood, feel that they are not alone, and accept themselves as valuable.[24]

Compared to other types, Type VII had a relatively low level of understanding of the behavioral characteristics related to the disease of dementia. They found it difficult to communicate with older adults with dementia; thus, they wanted to avoid them. This type of caregiver needs help understanding the patient's characteristics; they do not believe that being sensitive to a patient's response is necessary. This type has a basic need for empathy education because they found it challenging to establish a therapeutic relationship with the subject. Further, this type was the most likely to become physically and psychologically exhausted from caring. One study observed a similar obligatory empathic response and a defensive attitude among nurses caring for patients with dementia.[9] However, unlike the nurses in this previous study, the caregivers in the present study did not even attempt an empathic response.

Empathy can be improved through education and training, as demonstrated by a previous study.[25] Since improving empathy among caregivers is critical for the proper care of older adults with dementia, both initial and on-The-job training aimed at fostering empathy are necessary.

Conclusion

In this study, the certified caregivers of older adults with dementia served their patients according to their own thoughts, values, and judgments. Regardless of the severity of their dementia, the certified caregivers showed an understanding of their patients as human beings with emotions who have compromised cognitive functions and behavioral and psychological symptoms. These caregivers provided care services with empathy and understanding of the difficult situations the patients face. The findings indicate that certified caregivers' understanding of older adults with dementia should be based on multiple perspectives and the situations that these older adults and caregivers encounter. As per this study's findings, if individualized education and training can be conducted that is tailored to the different characteristics of the empathy types of certified caregivers of older patients with dementia, and care can subsequently be provided based on this education and training, it may reduce stress and compassion fatigue, improve job satisfaction and empathy, and increase satisfaction. These positive outcomes are expected to effectively improve caregiving services for older adults with dementia.

This study's findings present the following implications for further research. First, as this was an exploratory study conducted with a small number of caregivers, the generalizability of the results is limited. Therefore, we suggest that related exploratory research should be conducted. Second, since this study classified the empathy types of certified caregivers for older adults with dementia, we propose the development of an instrument that allows the evaluation of the characteristics of each type in clinical practice. Third, we recommend the development of a program that can be used as a customized empathy education strategy, reflecting and incorporating the various characteristics of the empathy types of certified caregivers of patients with dementia that were defined in this study's results.

Data Sharing Statement

The datasets generated and/or analyzed during the current study are not publicly available due the informed consent did not include the provision of research data from participants to a third party, but are available from the corresponding author upon reasonable request.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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