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Original Paper

Relationships between Dementia Care Duties and the Job Satisfaction of Nursing Staff in Unit-type Geriatric Health Service Facilities

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Abstract

This study examined the relationship between the frequency of high-quality dementia care duties and job satisfaction among nursing employees working in unit care geriatric health service facilities, including the perceived difficulty of performing care and responses to difficult work situations. Self-administered questionnaires were distributed to a total of 608 subjects. 324 effective responses were received and analyzed. A causal model was proposed in which the frequency of high-quality dementia care is influenced by the perceived difficulty of practicing such care, and that these two factors, mediated by control and escapes responses, affect job performance. Structural equation modeling was employed for assessment of fit and to evaluate the relationships between variables. After confirming that the proposed model fitted the data, it was found that high-quality dementia care is indeed associated with the perceived difficulty of practicing such care and that these two factors, mediated by control responses, are associated with job satisfaction. The results indicate that sustaining and increasing job satisfaction requires adopting control-oriented responses and improving the quality of dementia care.

Introduction

Institutions called geriatric health service facilities in Japan are considered to be interim facilities that offer temporary care until residents are able to return home and are not meant to provide long term care. However, according to the *2007 National Survey of Health Service Facilities and Businesses* [1], residents stayed an average of 277.6 days in these facilities, indicating that it is becoming difficult to maintain their interim status. Furthermore, the survey reports that 93.2% of residents showed signs of dementia and among them 52.2% were designated as Rank III (individual exhibits symptoms and behaviors that obstruct daily living as well as an impaired ability to communicate and thus requires nursing care) or above on the Activities of Daily Living (ADL) scale. Collective care at nursing homes and other conventional geriatric care facilities is known to make life difficult for residents with dementia by imposing various restrictions in regards to ADL [2]. A report submitted by the Geriatric Care Study Group in 2003 titled *Geriatric Care in 2015: Establishing Care that Maintains the Dignity of the Elderly*, proposes widespread promotion of unit care with private rooms, i.e. adoption of small-scale living units in order to realize

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personalized healthcare. Japan began introducing unit care in conventional large-scale facilities in the latter half of the 1990s. The first small-scale living unit special nursing homes consisting entirely of private rooms with unit care provisions were opened in 2002. Unit care within geriatric health service facilities was institutionalized in 2005. These unit care facilities gradually increased in number and reached a total of 250 by 2007, accounting for 7.3% of all geriatric health service facilities in Japan [1].

In order to ensure that elderly individuals with dementia spend secure and comfortable lives within unit care facilities, providing high-quality care is as important as infrastructure upgrades such as constructing more facilities and creating more private rooms for unit care. A report presented in July 2008 by the Emergency Project for Improving Healthcare and Living Standards for Individuals with Dementia suggests that improving dementia care necessitates providing proper medical and caregiving services based on standardization and technological advancements and supporting the lives of individuals with dementia and their families. Nevertheless, the practical application of unit care and dementia care in particular, still relies on the experience of individual employees and is being conducted on a trial-and-error basis [3]. Securing human resources is difficult, as can be witnessed in the shortage of geriatric care workers and the high employee turnover rate at unit care facilities. This is a major obstacle to offering stable, high-quality dementia care. There have been a number of studies published in the United States concerning job satisfaction and stress levels among staff members in Special Care Units (SCU) for elderly individuals with dementia [4-8]. These studies show that job satisfaction is high and the turnover rate is low in SCUs [4]. Furthermore, they indicate that although the rate of behavioral and psychological symptoms of dementia (BPSD) in SCU residents does not influence the stress levels of nursing staff [5,6], an increase in assisting ADL residents does [7]. Other studies show that SCU staff members who have been given reliable training in assessing symptoms of dementia and responding to them have a higher rate of job satisfaction [8]. Studies of geriatric health service facilities in Japan show that staff need to respond frequently to BPSD and perceive their duties as extremely difficult [9]. Nurses who work at geriatric health service facilities and other establishments define "difficult" as caring for residents with dementia while at the same time looking after residents who require constant visual monitoring [10]. The studies also describe how nurses confront the dilemma that they cannot provide "personal attendant care to residents with dementia" that meets their own ideals and how they feel there is no sense of fulfillment in their jobs [11]. *The Report on Private Rooms and Unit Care in Geriatric Healthcare Facilities during the Years of Proliferation* published by the Institute for Health Economics and Policy in 2002 states that although implementation of unit care increased the sense of fulfillment among staff, it also led to a rise in psychological fatigue. The report explains how fulfillment results from staff members being able to spend more time face to face with residents and how psychological fatigue results from the higher expectations placed on each staff member. Therefore, research into the relationship between dementia care, cognitive stress and job satisfaction in unit care geriatric health service facilities can be considered a high priority and the formulation of strategies that enable staff to provide stable, high-quality dementia care should be developed.

This study attempts to develop and examine the validity of a correlational model based on a cognitive theory of stress proposed by Lazarus et al. [12] that shows how the frequency (stressor) and perceived difficulties (cognitive appraisal) of high-quality dementia care mediated by responses to difficult work conditions (coping) influence job satisfaction (stress reaction).

Terminology

Unit care refers to care provided in a setting where the living environment and daily lifestyle emulates that of a normal household. In other words, unit care is a health service that realizes individual care

by combining lifestyle with healthcare (Ministry of Health, Labor and Welfare Ordinance No. 28, 2003). Specifically, facilities are divided into units of approximately 10 private rooms, each unit having its own dining hall and communal spaces for the purpose of achieving care that respects individual autonomy and sustains interpersonal and social relationships.

Method

1. Subjects

This study surveyed full-time nursing employees of unit care geriatric health service facilities throughout Japan. Unit care geriatric health service facilities are defined as geriatric health service facilities that have implemented unit care and have specified in the compensation status column of the Care Service Information System of their respective provinces that they have private and/or semi-private rooms. The authors requested the cooperation of 269 facilities nationwide selected from provincial Care Service Information System listings as of November 2008. Consequently, 69 (25.7%) of these facilities agreed to cooperate and a survey was conducted on all full-time nursing employees of these establishments. 608 self-administered questionnaires were distributed and 393 responses were received (response rate, 64.6%). Incomplete responses were excluded, resulting in 324 effective responses (effective response rate, 53.3%).

2. Surveyed items

The survey collected data on facility and nursing employee characteristics, frequency of high-quality dementia care, perceived level of difficulty of dementia care, responses to difficult work situations and job satisfaction.

2. 1. Facility and employee characteristics

Facility characteristics surveyed included year of establishment, facility type based on declaration of compensation status, day and night shifts of nursing and caregiving employees, presence of floor leaders, end-of-life provisions, as well as mean nursing care and dementia levels of residents as of October 2008. A floor leader is defined as an employee who supervises a single floor with multiple units and this item was added because of the increase in facilities employing floor leaders in addition to unit leaders.

Employee characteristics surveyed included age, gender, employment rank, qualifications, years of experience in nursing, years of experience nursing in geriatric health service facilities and classes taken for unit leader training. The Ministry of Health, Labor and Welfare stipulates that a full-time unit leader must be deployed to each unit of a unit care geriatric health service facility and unit leader training is included in the Unit Care Facility Training Program that was launched by the ministry in 2003.

2. 2. Frequency of high-quality dementia care

A measure of dementia care in unit care geriatric health service facilities developed by a previous study [13] was adopted for assessing the frequency of high-quality care. This measure consists of 19 questions pertaining to six factors which include maintaining health, supporting personal lifestyles choices, promoting ADL, performing bedside vigils, maintaining ties with the family and consolidating care. All items regarding the frequency of quality care provision were scored using a five point Likert scale ranging from "1 - never" to "5 - all the time". Therefore, a higher score on this measure indicates higher quality of care.

2. 3. Perceived level of difficulty of dementia care

The same measure employed in scoring the frequency of high-quality dementia care was adopted for measuring the perceived level of difficulty of dementia care. This level of difficulty was scored using a five point Likert scale ranging from "1 - not difficult at all" to "5 - very difficult". Therefore, a higher score indicates a higher perceived level of difficulty.

2. 4. Responses to difficult job situations

The revised version Latack's coping questionnaire [14-16] was employed to evaluate these responses. This measure consists of two factors, control and escape, with five questions for each factor for a total of 10 questions. Items were scored using a three point Likert scale ranging from "0 - I don't" to "2 - I do". Therefore a higher score indicates a higher level of coping.

2. 5. Job satisfaction

This was measured using a job satisfaction scale developed by Macdonald et al. [17]. The scale can be applied to workers in various fields of employment from 20 to 60 years old regardless of gender. Permission was obtained from the developers and the scale was translated in a manner that did not obscure its initial purpose. Items were scored using a five point Likert scale ranging from "1 - strongly disagree" to "5 - strongly agree". A higher total score of the 10 items indicates higher job satisfaction, the lowest score possible being 10 and the highest being 50.

3. Survey procedures and ethical considerations

The authors sent a package including a letter of request for cooperation and documentation explaining the purpose and methods of the study to representatives of the unit care geriatric health service facilities selected. If a given facility agreed to cooperate with our study, we requested that a questionnaire regarding facility characteristics was completed and returned along with a signed letter of consent. Questionnaires regarding nursing employee characteristics, dementia care and other issues were sent to facilities that agreed to cooperate, along with a letter of request for cooperation and a return envelope. The number of questionnaires sent to each facility matched the number of full-time nursing employees working there. Nursing employees were free to choose whether to participate or not and participation was acknowledged by the return of the questionnaire. The questionnaires were anonymous and received through individual postings. The survey was conducted from November 2008 to February 2009. This study was approved by the Shimane University Faculty of Medicine Nursing Research Ethics Committee (approval No.89).

4. Statistical analysis

Employing a cognitive theory of stress proposed by Lazarus et al. [12], the authors designated the frequency of high-quality dementia care as a stressor, the perceived level of difficulty in dementia care as stress appraisal, escape and control responses as coping and job satisfaction as stress responses. Structural equation modeling (SEM) was used to evaluate assessment of fit for the causal model as well as relationships between variables. The comparative fit index (CFI) and the root mean square of error approximates (RMSEA) were used to assess fit in the causal model because of their relative insensitivity to sample size and observed variables. The path coefficient was determined to be statistically significant if a critical ratio (CR) value of over 1.96 (α=.05) was attained in a Wald test.

All statistical analysis for SEM was conducted using AMOS 17.0 and all other analyses were conducted using SPSS 17.0.

Results

1. Subject characteristics

Table 1 summarizes the characteristics of the nursing employees who agreed to participate in this study. The mean age was 43.3 and 93.5% of the subjects were female. Years of experience in the nursing field spanned from 0.7 to 45 and the mean was 18.6. The mean years of experience working in a geriatric health service facility was 3.8. Among all subjects, 71.0% were staff employees and 9.3% had attended unit leader training courses. A majority of the subjects (53.7%) were qualified as assistant nurses as opposed to clinical nurses (51.9%).

Table 2 summarizes the characteristics of the unit care geriatric health service facilities. Among the 69 facilities that responded, 31 were completely and 38 were partially unit care facilities. In terms of day shifts, 26 facilities (37.7%) designated floors to nursing employees on a permanent basis, 20 facilities (20.9%) rotated employees throughout the establishment and 16 facilities (23.2%) designated units to nursing employees on a permanent basis. In terms of night shifts, 62 facilities (89.8%) had nursing staff working regular night shifts, five facilities (7.2%) adopted an on-call system for night care and two facilities (2.9%) did not employ night shifts. Sixty facilities (87.0%) adopted the floor leader system. In terms of end-of-life provisions, 33 facilities (47.8%) responded that as a rule they would permit residents to end their lives within the facility if they wished and would allow family to be at their side. Seventeen facilities (24.6%) responded that they would not offer such end-of-life provisions at all and 16 facilities (23.2%) responded that they would not offer such end-of-life provisions in the majority of cases. Thirty-four facilities (49.3%) said that they had experienced cases where terminal care (including bedside vigils) was required. The mean nursing care level of residents was 3.16 (SD=0.36). In terms of dementia, a majority of 25 facilities (36.2%) reported that 40% to 60% of their residents were designated as Rank III or above on the ADL scale.

Table 1 Characteristics of subjects

		(n=324)
Gender	Female	303 (93.5)
	Male	21 (6.5)
Years of age	Mean ± standard deviation	43.3±10.2
	Range	22 - 66
Years of experience in nursing	Mean ± standard deviation	18.6±10.2
	Range	0.7 - 45
Years of experience nursing in geriatric health service facilities	Mean ± standard deviation	3.8±3.2
	Range	0.1 - 16.3
Employment rank/post	Equivalent to chief nurse	35 (10.8)
	Equivalent to deputy chief	13 (4.0)
	Floor leader	12 (3.7)
	Unit leader	14 (4.3)
	Staff member	230 (71.0)
	Other / unknown	20 (6.2)
Qualifications (multiple responses allowed)	Nurse	168 (51.9)
	Assistant nurse	174 (53.7)
	Public health nurse	5 (1.5)
	Caregiving support specialist	43 (13.3)
	Dementia care specialist	7 (2.2)
	Other	6 (1.9)
Attended unit leader training courses	Yes	30 (9.3)
	No	294 (90.7)

Percentages in parentheses

Table 2 Outline of facilities

			(n=69)
Facility type based on declaration of compensation	Unit care	31	(44.9%)
	Partially unit care	38	(55.1%)
Year of establishment	2002	3	(4.3%)
	2003	9	(13.0%)
	2004	13	(18.8%)
	2005	10	(14.5%)
	2006	13	(18.8%)
	2007	11	(15.9%)
	2008	10	(14.5%)
Types of day shifts for nursing employees	Designated units	16	(23.2%)
	Designated floors	26	(37.7%)
	Facility-wide rotation	20	(29.0%)
	Other	7	(10.1%)
Types of night shifts for nursing employees	Regular night shifts 1 employee per unit	1	(1.4%)
	1 employee per floor	2	(2.9%)
	1 employee per facility	52	(75.4%)
	Other	7	(10.1%)
	Night watch system	0	(0.0%)
	On-call system	5	(7.2%)
	No night provisions	2	(2.9%)
Types of day shifts for caregiving employees	Designated units	46	(66.7%)
	Designated floors	20	(29.0%)
	Other	3	(4.3%)
Types of night shifts for care giving employees	1 employee per unit	15	(22.7%)
	1 employee per 2 units	42	(60.9%)
	Other	12	(17.4%)
Employs floor leader system	Yes	60	(87.0%)
	No	8	(11.6%)
	Unknown	1	(1.4%)
End-of-life provisions	Will offer as a rule	33	(47.8%)
	Will not offer in the majority of cases	16	(23.2%)
	Will not offer at all	17	(24.6%)
	Unknown	3	(4.3%)
Experience with terminal care	Yes	34	(49.3%)
	No	34	(49.3%)
	Unknown	1	(1.4%)
Mean nursing care level	Mean ± standard deviation		3.16±0.36
	Range		2.10 - 4.30
Percentage of residents designated as Rank III or above on the ADL scale	Under 20%	3	(4.3%)
	From 20% to 40%	15	(21.7%)
	From 40% to 60%	25	(36.2%)
	From 60% to 80%	13	(18.8%)
	Above 80%	3	(4.3%)
	No response	10	(14.5%)

2. Observed trends in responses regarding the frequency of high-quality dementia care and the perceived level of difficulty of such care

Table 3 shows the response distribution of items related to the frequency of high-quality dementia care. The items that exhibited the highest response rates of "always" and "frequently" combined were "X2: I communicate and cooperate closely with caregiving staff to detect any changes or abnormalities in regards to the health of residents as soon as possible," at 298 subjects (91.9%); "X1: I constantly monitor the daily activities of individual residents to prevent overlooking changes in their health," at 263 subjects (81.1%) and "X3: I am cautious about any effects that medication may have on the daily lives of residents," at 235 subjects (72.5%). All three items are associated with the health maintenance factor. The items that exhibited the highest response rates of "never" and "almost never" combined were "X14: I will prepare care that ensures that residents end their lives peacefully," at 205 subjects (63.2%) and "X13: I actively accept bedside vigil duties," at 195 subjects (60.1%). Both of these items are associated with the bedside vigil factor.

Table 3 Response distribution of items related to the frequency of dementia care in unit care geriatric health service facilities

(n=324)

Items	Always	Frequently	Sometimes	Almost never	Never
Maintaining health					
X 1. I constantly monitor the daily activities of individual residents to prevent overlooking changes in their health.	178 (54.9)	85 (26.2)	52 (16.0)	6 (1.9)	3 (0.9)
X 2. I communicate and cooperate closely with caregiving staff to detect any changes or abnormalities in regards to the health of residents as soon as possible.	213 (65.7)	85 (26.2)	22 (6.8)	3 (0.9)	1 (0.3)
X 3. I am cautious about any effects that medication may have on the daily lives of residents.	121 (37.3)	114 (35.2)	71 (21.9)	17 (5.2)	1 (0.3)
X 4. I try to come up with ways to balance the restriction necessary to manage chronic conditions and the activities that residents enjoy in their lives.	59 (18.2)	89 (27.5)	107 (33.0)	52 (16.0)	17 (5.2)
Supporting personal lifestyle choices					
X 5. I make arrangements for residents to participate in activities they enjoy.	43 (13.3)	93 (28.7)	106 (32.7)	59 (18.2)	23 (7.1)
X 6. I arrange relaxing environments or places where residents can gather to experience a homelike atmosphere.	52 (16.0)	85 (26.2)	107 (33.0)	58 (17.9)	22 (6.8)
X 7. I let residents bring familiar items from their homes so they can personalize their living quarters.	30 (9.3)	45 (13.9)	109 (33.6)	97 (29.9)	43 (13.3)
X 8. I arrange for residents to have private spaces they can call their own.	71 (21.9)	54 (16.7)	93 (28.7)	76 (23.5)	30 (9.3)
Promoting ADL					
X 9. I attempt to provide a refreshing rhythm to the daily lives of each resident.	43 (13.3)	65 (20.1)	122 (37.7)	73 (22.5)	21 (6.5)
X10. I support exercise that is enough to encourage an appetite.	33 (10.2)	53 (16.4)	125 (38.6)	82 (25.3)	31 (9.6)
X11. I help residents learn daily habits that they can continue after they are discharged.	39 (12.0)	51 (15.7)	89 (27.5)	88 (27.2)	57 (17.6)
X12. I encourage residents to practice walking in simple steps to foster motivation and to make them feel safe.	38 (11.7)	65 (20.1)	113 (34.9)	74 (22.8)	34 (10.5)
Performing bedside vigils					
X13. I actively accept bedside vigil duties.	23 (7.1)	36 (11.1)	70 (21.6)	62 (19.1)	133 (41.0)
X14. I will prepare care that ensures that residents end their lives peacefully.	18 (5.6)	30 (9.3)	71 (21.9)	49 (15.1)	156 (48.1)
Maintaining relations with family members					
X15. I try to have a good relationship with family members.	57 (17.6)	87 (26.9)	118 (36.4)	38 (11.7)	24 (7.4)
X16. I exchange information about the care and daily life of residents with their families.	52 (16.0)	98 (30.2)	122 (37.7)	30 (9.3)	22 (6.8)
X17. I try to understand and support families.	22 (6.8)	55 (17.0)	119 (36.7)	79 (24.4)	49 (15.1)
Consolidating care					
X18. I discuss daily care with my colleagues to prevent any differences in opinion.	73 (22.5)	98 (30.2)	111 (34.3)	26 (8.0)	16 (4.9)
X19. I arrange regular meetings to discuss whether we are performing care that treats each resident as an important individual.	48 (14.8)	80 (24.7)	109 (33.6)	57 (17.6)	30 (9.3)

Percentages in parentheses

The construct validity of the measure for the frequency of high-quality dementia care was supported with confirmatory factor analysis using SEM. A secondary factor model that employs maintaining health, supporting personal lifestyle choices, promoting ADL, performing bedside vigils, maintaining ties with the family and consolidating care as primary factors and the perceived level of difficulty of dementia care as a secondary factor was established and assessment of fit was analyzed. As a result, CFI was 0.932 and RMSEA was 0.067. Next, the internal consistency of the measure was tested using Cronbach's α. As a result, Cronbach's α for the measure as a whole was 0.91; the maintaining health factor, consisting of four items, was 0.74; the supporting personal lifestyle choices factor, consisting of four items, was 0.84; the promoting ADL factor, consisting of four items, was 0.83; the performing bedside vigils factor, consisting of two items, was 0.91; the maintaining ties with the family factor, consisting of three items, was 0.84 and the consolidating care factor, consisting of two items, was 0.81. The mean score for the frequency of high-quality dementia care measures as a whole was 61.1 (SD=13.2, X_{max}=94, X_{min}=22). In terms of the factor sub-scales, the mean score was 16.3 for managing health (SD=2.7, X_{max}=20, X_{min}=6), 12.4 for supporting personal lifestyle choices (SD=3.8, X_{max}=20, X_{min}=4), 11.8 for promoting ADL (SD=3.7, X_{max}=20, X_{min}=4), 4.3 for performing bedside vigils (SD=2.4, X_{max}=10, X_{min}=2), 9.5 for maintaining ties with the family (SD=2.9, X_{max}=15, X_{min}=3) and 6.8 for consolidating care (SD=2.1, X_{max}=10, X_{min}=2).

Table 4 shows the response distribution of items related to the perceived level of difficulty of dementia care. The items that exhibited the highest response rates of "not difficult at all" and "not too difficult" combined were "X2: I communicate and cooperate closely with caregiving staff to detect any changes or abnormalities in regards to the health of residents as soon as possible," at 122 subjects (37.3%) and "X1: I constantly monitor the daily activities of individual residents to prevent overlooking changes in their health," at 67 subjects (20.6%). Both items are associated with the health maintenance factor and the scores matched their rate of application. "X16: I exchange information about the care and daily life of residents with their families," was third with 66 subjects (20.4%) and "X15: I establish good relations with the family members of residents," was fourth at 60 subjects (18.5%). Both of these items are associated with the family ties factor. The item that exhibited the highest response rates of "very difficult" and "somewhat difficult" combined was the bedside vigil item "X13: I actively accept bedside vigil duties," at 211 subjects (65.1%). The second and third highest response rates were registered in "X9: I attempt to provide a refreshing rhythm to the daily lives of each resident," at 209 subjects (64.5%) and "X12: I encourage residents to practice walking in simple steps to foster motivation and to make them feel safe," at 204 subjects (62.9%). Both of these items are associated with the promoting ADL factor.

Table 4 Response distribution of items related to the perceived level of difficulty of dementia care

(n=324)

Items	Not difficult at all	Not too difficult	Cannot say	Somewhat difficult	Very difficult
Maintaining health					
X 1. I constantly monitor the daily activities of individual residents to prevent overlooking changes in their health.	16 (4.9)	51 (15.7)	65 (20.1)	124 (38.3)	68 (21.0)
X 2. I communicate and cooperate closely with caregiving staff to detect any changes or abnormalities in regards to the health of residents as soon as possible.	41 (12.7)	81 (25.0)	54 (16.7)	113 (34.9)	35 (10.8)
X 3. I am cautious about any effects that medication may have on the daily lives of residents.	18 (5.6)	32 (9.9)	87 (26.9)	120 (37.0)	67 (20.7)
X 4. I try to come up with ways to balance the restriction necessary to manage chronic conditions and the activities that residents enjoy in their lives.	7 (2.2)	31 (9.6)	93 (28.7)	121 (37.3)	72 (22.2)
Supporting personal lifestyle choices					
X 5. I make arrangements for residents to participate in activities they enjoy.	10 (3.1)	29 (9.0)	115 (35.5)	107 (33.0)	63 (19.4)
X 6. I arrange relaxing environments or places where residents can gather to experience a homelike atmosphere.	7 (2.2)	31 (9.6)	102 (31.5)	114 (35.2)	70 (21.6)
X 7. I let residents bring familiar items from their homes so they can personalize their living quarters.	16 (4.9)	33 (10.2)	110 (34.0)	109 (33.6)	56 (17.3)
X 8. I arrange for residents to have private spaces they can call their own.	15 (4.6)	38 (11.7)	120 (37.0)	92 (28.4)	59 (18.2)
Promoting ADL					
X 9. I attempt to provide a refreshing rhythm to the daily lives of each resident.	7 (2.2)	16 (4.9)	92 (28.4)	117 (36.1)	92 (28.4)
X10. I support exercise that is enough to encourage an appetite.	9 (2.8)	21 (6.5)	114 (35.2)	117 (36.1)	63 (19.4)
X11. I help residents learn daily habits that they can continue after they are discharged.	7 (2.2)	22 (6.8)	105 (32.4)	111 (34.3)	79 (24.4)
X12. I encourage residents to practice walking in simple steps to foster motivation and to make them feel safe.	9 (2.8)	15 (4.6)	96 (29.6)	141 (43.5)	63 (19.4)
Performing bedside vigils					
X13. I actively accept bedside vigil duties.	17 (5.2)	15 (4.6)	81 (25.0)	79 (24.4)	132 (40.7)
X14. I will prepare care that ensures that residents end their lives peacefully.	18 (5.6)	13 (4.0)	100 (30.9)	66 (20.4)	127 (39.2)
Maintaining relations with family members					
X15. I try to have a good relationship with family members.	17 (5.2)	43 (13.3)	112 (34.6)	92 (28.4)	60 (18.5)
X16. I exchange information about the care and daily life of residents with their families.	19 (5.9)	47 (14.5)	113 (34.9)	98 (30.2)	47 (14.5)
X17. I try to understand and support families.	13 (4.0)	20 (6.2)	104 (32.1)	103 (31.8)	84 (25.9)
Consolidating care					
X18. I discuss daily care with my colleagues to prevent any differences in opinion.	13 (4.0)	35 (10.8)	90 (27.8)	132 (40.7)	54 (16.7)
X19. I arrange regular meetings to discuss whether we are performing care that treats each resident as an important individual.	12 (3.7)	26 (8.0)	96 (29.6)	116 (35.8)	74 (22.8)

Percentages in parentheses

The construct validity of the measure for the perceived level of difficulty of dementia care was examined with confirmatory factor analysis. A secondary factor model that employs maintaining health, supporting personal lifestyle choices, promoting ADL, performing bedside vigils, maintaining ties with the family and consolidating care as primary factors and the perceived level of difficulty of dementia care as a secondary factor was established. As a result of assessment of fit analysis, CFI was 0.910 and RMSEA was 0.079. Since a given model is generally considered to be fit if a CFI of over 0.900 and a RMSEA of under 0.080 is obtained, it was concluded that this factor model was fairly valid. The internal consistency of the measure was tested using Cronbach's α, resulting in a value of 0.90 for the measure as a whole, 0.78 for the maintaining health factor, 0.84 for the supporting personal lifestyle choices factor, 0.82 for promoting ADL, 0.91 for performing bedside vigils, 0.86 for maintaining ties with the family and 0.84 for the consolidating care factor. The mean score for the perceived level of difficulty measure as a whole was 68.3 (SD=12.1, X_{max}=95, X_{min}=30). In terms of the factor sub-scales, the mean score was 13.9 for managing health (SD=3.5, X_{max}=20, X_{min}=5), 14.1 for supporting personal lifestyle choices (SD=3.4, X_{max}=20, X_{min}=4), 14.9 for promoting ADL (SD=3.1, X_{max}=20, X_{min}=4), 7.7 for performing bedside vigils (SD=2.2, X_{max}=10, X_{min}=2), 10.4 for maintaining ties with the family (SD=2.9, X_{max}=15, X_{min}=3) and 7.2 for consolidating care (SD=1.9, X_{max}=10, X_{min}=2).

3. Observed trends in responses regarding coping with difficult job situations and job satisfaction

Table 5 shows the response distribution of questions related to coping with difficult job situations. The items that exhibited the highest response rates of "I do" were "2: I decide what I think should be done and explain this to the people who are affected," at 217 subjects (67.0%) and "1: I think about the challenges I can find in this situation," at 197 subjects (60.8%). Both items are associated with the control factor. The items that exhibited the highest response rates of "I don't" were "10: I try to keep away from this type of situation," at 227 subjects (70.1%) and "9: I set my own priorities based on what I like to do," at 221 subjects (68.2%). Both items are associated with the escape factor.

To establish construct validity, a two-factor cross-factored model was created and assessment of fit was examined using confirmatory factor analysis. As a result, CFI was 0.906 and RMSEA was 0.066. The internal consistency of the measure was tested using Cronbach's α, resulting in a value of 0.63 for control and 0.70 for escape. The mean score for control was 7.5 (SD=1.8, X_{max}=10, X_{min}=2) and 2.7 for escape (SD=2.0, X_{max}=8, X_{min}=0).

Table 6 shows the response distribution of questions related to job satisfaction. The items that exhibited the highest response rates of "strongly agree" and "agree" combined were "2: I feel close to the people at work," at 228 subjects (70.4%) and "6: On the whole, I believe work is good for my physical health,"

Table 5 Response distribution for the revised Latack's coping questionnaire

(n=324)

Item	No		Can't say		Yes	
Control						
1. Think about the challenges I can find in this situation.	6	(1.9)	121	(37.3)	197	(60.8)
2. Decide what I think should be done and explain this to the people who are affected.	8	(2.5)	99	(30.6)	217	(67.0)
3. Try to work faster and more efficiently.	6	(1.9)	128	(39.5)	190	(58.6)
4. Put extra attention on planning and scheduling.	18	(5.6)	161	(49.7)	145	(44.8)
5. Devote more time and energy to doing my job.	26	(8.0)	179	(55.2)	119	(36.7)
Escape						
6. Tell myself that time takes care of sutuations like this.	120	(37.0)	162	(50.0)	42	(13.0)
7. Separate myself as much as possible from the people who created this situation.	126	(38.9)	163	(50.3)	35	(10.8)
8. Accept this situation because there is nothing I can do to change it.	150	(46.3)	146	(45.1)	28	(8.6)
9. Set my own priorities based on what I like to do.	221	(68.2)	98	(30.2)	5	(1.5)
10.Try to keep away from this type of situations.	227	(70.1)	96	(29.6)	1	(0.3)

Percentages in parentheses

Table 6 Response distribution for the Macdonald et al. [17] job satisfaction scale

(n=324)

Items	Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree
1. I receive recognition for a job well done	19 (5.9)	55 (17.0)	134 (41.4)	106 (32.7)	10 (3.1)
2. I feel close to the people at work	3 (0.9)	13 (4.0)	80 (24.7)	182 (56.2)	46 (14.2)
3. I feel good about working at this company	24 (7.4)	42 (13.0)	134 (41.4)	92 (28.4)	32 (9.9)
4. I feel secure about my job	50 (15.4)	113 (34.9)	98 (30.2)	44 (13.6)	19 (5.9)
5. I believe management is concerned about me	58 (17.9)	69 (21.3)	133 (41.0)	61 (18.8)	3 (0.9)
6. On the whole, I believe work is good for my physical health	7 (2.2)	23 (7.1)	94 (29.0)	137 (42.3)	63 (19.4)
7. My wages are good	73 (22.5)	82 (25.3)	111 (34.3)	51 (15.7)	7 (2.2)
8. All my talents and skills are used at work	23 (7.1)	83 (25.6)	142 (43.8)	68 (21.0)	8 (2.5)
9. I get along with my supervisors	12 (3.7)	33 (10.2)	114 (35.2)	145 (44.8)	20 (6.2)
10. I feel good about my job	36 (11.1)	81 (25.0)	138 (42.6)	62 (19.1)	7 (2.2)

Percentages in parentheses

at 200 subjects (61.7%). The items that exhibited the highest response rates of "strongly disagree" and "disagree" combined were "4: I feel secure about my job," at 163 subjects (50.3%) and "7: My wages are good," at 155 subjects (47.8%).

To establish construct validity, a single factor model was created and assessment of fit was examined using confirmatory factor analysis. As a result, CFI was 0.913 and RMSEA was 0.089. Cronbach's α was 0.83. The mean score for job satisfaction was 30.5 (SD=6.1, X_{max}=46, X_{min}=11).

4. Relationship between high-quality dementia care, perceived difficulty, coping with difficult situations and job satisfaction

Figure 1 shows the causal model hypothesized in this study. The CFI was 0.852 and the RMSEA was 0.050. Therefore, it can be seen that the CFI was slightly below the value necessary for statistical significance. However, we believe this value does not warrant rejecting the hypothesis altogether. Taking into consideration the complexity of the proposed model, we believe the CFI should be regarded as a reference value and the RMSEA should be the main focus of evaluation. Hence, we decided it was appropriate to adopt the model and continue analysis using path coefficients.

For the frequency of dementia care, all path coefficients between each primary factor and the observed variables were statistically significant. The values were between 0.58 and 0.71 for maintaining health, between 0.66 and 0.82 for supporting personal lifestyle choices, between 0.66 and 0.82 for promoting ADL, between 0.90 and 0.94 for performing bedside vigils, between 0.78 and 0.81 for maintaining ties with the family and between 0.79 and 0.85 for consolidating care. Furthermore, all path coefficients were statistically significant including those for perceived difficulty. The values were between 0.60 and 0.78 for maintaining health, between 0.70 and 0.87 for supporting personal lifestyle choices, between 0.64 and 0.79 for promoting ADL, between 0.91 and 0.92 for performing bedside vigils, between 0.75 and 0.87 for maintaining ties with the family and between 0.84 and 0.86 for consolidating care. Statistical significance was also confirmed for path coefficients from the control factor to the observed variables (between 0.36 and 0.57) and for path coefficients from the escape factor to the observed variables (between 0.33 and 0.81). Path coefficients from the job satisfaction factor to the observed variables were significant (between 0.18 and 0.84). However, the path coefficient from perceived difficulty to job satisfaction through escape was not significant.

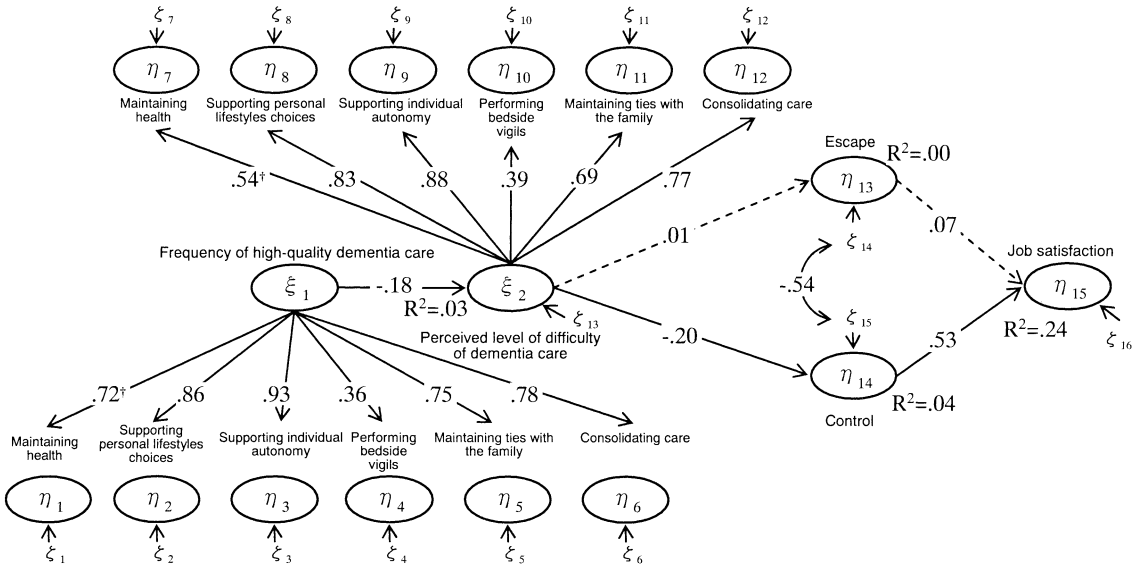

Fig. 1 Relationship between the frequency of dementia care, the perceived difficulty of such care, and job satisfaction (Standardized solutions) n=324, CFI=0.852, RMSEA=0.050

Notes: 1) Indicators of latent variables (observed variables) and error values have been omitted to avoid confusion.
2) Solid lines represent statistical significance and hatched lines represent statistical insignificance.
3) † indicates areas that have been abbreviated for distinguishing the model.

Discussion

This study attempted to employ the cognitive stress theory to examine the relationship between the frequency of high-quality dementia care, the perceived difficulties in practicing this type of care, control and escape responses and job satisfaction. Consequently, it was found that there were causal relationships between each variable, with the exception of escape responses. Not only do these findings support the cognitive stress theory, but they also show that job satisfaction improves when recognition of the difficulties of practicing high-quality dementia care is processed through control-oriented responses. In other words, job satisfaction can be sustained or improved by considering ways to reinforce control-oriented responses among nursing employees. Therefore, it is believed that training which emphasizes control-oriented coping techniques such as having employees decide what they think should be done and explain their plans to the people who are affected when confronted with a difficult work situation, should have a positive influence on job satisfaction.

Furthermore, it was shown that the frequency of high-quality dementia care and the perceived difficulty of practicing such care had a statistically significant negative correlation. The study revealed that the practice of bedside vigils was infrequent and perceived to be extremely difficult. Approximately 48% of the facilities that cooperated with this study responded that as a rule they would permit residents to end their lives within the facility if they wished and would allow family to be at their side. This rate is higher than the 30% level reported in a survey conducted by the Japanese Nursing Association in 2003 [18]. However, the higher rate found in this study may be due to the passing of time as well as the focus on unit care in this research. Compensation for terminal care in geriatric health service facilities was newly added in the Caregiving Compensation Revision of 2009, indicating that care during bedside vigils is being gradually acknowledged. Nevertheless, in reality nursing employees in these facilities perceive care related to bedside vigils as being difficult and therefore it may be necessary to educate employees on how to perform care that ensures that residents end their lives peacefully, how to actively accept bedside vigil duties and how

to establish a cooperative relationship with caregiving employees under such conditions. We believe the proposed efforts described above should help improve dementia care by nursing employees and that it is possible to sustain or raise job satisfaction through the practice of control-oriented responses.

This study substantiated a causal model related to job satisfaction. 24% of the job satisfaction rate of nursing employees working in geriatric health service facilities can be explained by the frequency of dementia care, the perceived difficulty of such care and responses to difficult work situations. Other variables which should be considered in job satisfaction include support from facility management and colleagues [19-25] and interpersonal relationships with family members of residents [26-30]. However, previous studies have not detected a large effect, i.e. contributory rate, of such social relationships on job satisfaction and not many efforts have been made to incorporate such variables into causal models, this study being no exception. Therefore, it is suggested by employing the above variables in causal models based on the one proposed in this study, a more general view of job satisfaction among nursing employees working in unit care geriatric health service facilities can be obtained and a causal relationship pertaining to job satisfaction may be achieved.

Conclusion

This study examined the relationship between the frequency of dementia care, the perceived difficulty of such care, responses to difficult work situations (control and escape) and job satisfaction among nursing employees working in unit care geriatric health service facilities. As a result, it was found that the frequency of dementia care influences the perceived difficulty of such care and that these two factors, mediated by control-oriented responses, affect job satisfaction. Therefore, the findings of this study support the cognitive stress theory. Furthermore, the findings suggest that in order to sustain or raise job satisfaction, it is important to educate nursing employees to utilize control-oriented responses in difficult work situations and to promote the improvement of dementia care overall.

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References

1. Kouseiroudousyo daijinkanbou toukeijouhoubu: *Heisei 19nen kaigosa-bisu shisetsu・jigyousyo chousa. Kouseitoukeikyoukai*, 2008. (in Japanese)
2. Miyajima W: Chiikibunsangata kea ha kazoku・sutaffu no kaigofutan keigen ni yakudatsuka. *Jpn J Geriatric Psychiatry* 15: 929–935, 2004. (in Japanese)
3. Shibao K: Shisetsusa-bisu no shitsu wo meguru kenkyuu・seisaku・jissen no doukou: shitsutekihyouka ni tsuite. *Jpn J Social Welfare* 48: 185–188, 2007. (in Japanese)
4. Robison J, Pillemer K: Job satisfaction and intention to quit among nursing home nursing staff: do special care units make a difference? *J Appl Gerontol* 26(1): 95–112, 2007.
5. Middleton JI, Stewart NJ, Richardson JS: Caregiver distress related to disruptive behaviors on special care units versus traditional long-term care units. *J Gerontol Nurs* 25: 11–19, 1999.
6. Holms D, Teresi J, Weiner A, Monaco C, Ronch J, Vickers R: Impacts associated with special care units in long-term care facilities. *Gerontologist* 30: 178–183, 1990.

7. Pekkarinen L, Sinervo T, Elovainio M, Noro A, Finne-Soveri H, Leskinen E: Resident care needs and work stressors in special care units versus non-specialized long-term care units. *Res Nurs Health* 29(5): 465–476, 2006.
8. Zimmerman S, Williams CS, Reed PS, Boustani M, Preisser JS, Heck E, Sloane PD: Attitudes, stress, and satisfaction of staff who care for residents with dementia. *Gerontologist* 45: 96–105, 2005.
9. Matsuda C, Sase M, Nagahata T, Usui K: Chihouseikoureisya no mondaikoudou no keikenhindo to sono ninshiki ni tsuite: roujinhokenshisetsu no syokuin heno anke-tochousa ni yoru kaiseki. *Bull Osaka Pref Coll Nurs* 6(1): 41–49, 2000. (in Japanese)
10. Taniguchi Y: Iryoushisetsu de ninchisyoukoureisya ni kango wo okonau ue de syoujiru kangoshi no konnan no kouzou. *J Jpn Acad Gerontol Nurs* 11(1): 12–20, 2006. (in Japanese)
11. Matsuda C, Nagahata T, Ueno M, Gora J: Ninchisyoukoureisya wo kea suru kangoshi no kanjou. *Bull Osaka Pref Coll Nurs* 12(1): 85–91, 2006. (in Japanese)
12. Lazarus RS, Folkman S: *Stress, appraisal, and coping*. New York, Springer Publishing Company, 1984.
13. Hara S, Mikane S, Futoyu Y, Nakajima K, Ono M, Okinaka Y, Tsutsui T, Koyama H: Yunittogatakaigoroujinhokenshisetsu ni okeru ninchisyou kea no shitsu ni kansuru sokuteisyakudo no kaihatsu. *Jpn J Biz Manage L-T Care* 4(1): 24–34, 2009. (in Japanese)
14. Saitou K, Harada K, Nunomoto Y, Kagawa K, Nakajima K: Latack ko-pingusyakudokaiteiban no kaihatsu. *J Health Welfare Statistics* 47(4): 19–26, 2000. (in Japanese)
15. Saitou K, Harada K, Nunomoto Y, Kagawa K, Nakajima K: Latack ko-pingusyakudokaiteiban no inshifuhensei ni kansuru kentou. *Bull Health and Welfare Sci, Okayama Pref Univ* 6(1): 37–44, 1999. (in Japanese)
16. Latack JC: Coping with job stress: measures and future directions for scale development. *J Appl Psychol*, 71(3): 377–385, 1986.
17. Macdonald S, Maclntyre R: The genetic job satisfaction scale: scale development and its correlates. *Empl Assist Q* 13(2): 1–16, 1997.
18. Nihonkangokyoukai: 2003nen kaigohokenshisetsusa-bisu ni okeru kango jittai chousa kekka no gaiyou 2003–10–22. (`http://www.nurse.or.jp/home/opinion/newsrelease/2003pdf/chosa68.pdf`)
19. Leiter MP: Burnout as a function of communication patterns. *Group Organ Stud* 13: 111–127, 1988.
20. Monahan RS, McCarthy S: Nursing home employment: the nurse's aide's perspective. *J Gerontol Nurs* 18: 13–16, 1992.
21. Schaefer JA, Moos RH: Effects of work stressors and work climate on long-term care staff's job morale and functioning. *Res Nurs Health* 19: 63–73, 1996.
22. Friedman SM, Daub C, Cresci K, Keyser R: A comparison of job satisfaction among nursing assistants in nursing homes and the program of all-inclusive care for the elderly (PACE). *Gerontologist* 4: 434–439, 1999.
23. Bradley JR, Cartwright S: Social support, job stress, health, and job satisfaction among nurses in the United Kingdom. *Int J Stress Manag* 9: 163–182, 2002.
24. Yoon J, Thye S: A dual process model of organizational commitment. *Work occup* 29: 97–124, 2002.
25. Hall LM, McGilton KS, Krejci J, Pringle D, Johnston E, Fairley L, Brown M: Enhancing the quality of supportive supervisory behavior in long-term care facilities. *J Nurs Adm* 35: 181–187, 2005.
26. Caudill M, Patrick M: Nursing assistant turnover in nursing homes and need satisfaction. *J Gerontol Nurs* 15: 24–30, 1989.
27. Pillemer K, Hegeman CR, Albright B, Henderson C: Practice concepts. Building bridges between families and nursing home staff: the partners in caregiving program. *Gerontologist* 38: 499–503, 1998.
28. Karner TX, Montgomery RJV, Dobbs D, Wittmaier C: Increasing staff satisfaction: the impact of SCUs and family involvement... Special Care Units. *J Gerontol Nurs* 24: 39–44, 1998.
29. Pillemer K, Suitor JJ, Henderson CR, Meador R, Schultz L, Robinson J, Hegeman C: A cooperative com-

munication intervention for nursing home staff and family members of residents. *Gerontologist* 43: 96–106, 2003.

30. Gaugler JE, Ewen HH: Building relationships in residential long-term care: determinants of staff attitudes toward family members. *J Gerontol Nurs* 31: 19–26, 2005.