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Title	Burnout of Long-term Care Facility Employees: Relationship with Employees' Expressed Emotion Toward Patients
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Burnout of Long Term Care Facility Employees: Relationship with Employees'

Expressed Emotion toward Patients

Coflicts of interest:

The authors have no conflicts of interest to declare.

Running title:

Burnout of Long Term Care Facility Employees

Abstract :

Background: This study determined factors related to the burnout of long-term care facility employees, including employees' expressed emotion (EE) toward patients.

Methods: A survey of 411 long-term care facility employees was conducted. Employee burnout was evaluated with the Maslach Burnout Inventory (MBI). EE levels were evaluated using the Nurse Attitude Scale (NAS).

Results: The percentage of high scorers on the MBI's three subscales of emotional exhaustion, depersonalization, and low personal accomplishment were as follows: emotional exhaustion, 197 people (51.6%); depersonalization, 122 people (31.4%); low personal accomplishment, 301 people (83.8%). Results of multiple logistic regression analysis using presence of a high score on the MBI subscales as dependent variables confirmed significant relevant factors. For emotional exhaustion, this was criticism (Odds Ratio: 1.74, p = 0.046), for depersonalization, male (Odds Ratio: 1.99, p = 0.021), under 40 years old (Odds Ratio: 1.84, p = 0.038), and hostility (Odds Ratio: 2.99, p < 0.001).

Conclusion: Results indicate that employees' EE of criticism and hostility toward patients is related to burnout.

1. INTRODUCTION

According to the World Health Organization, in 2010 there were 35.6 million people with dementia in the world, and that number is estimated to reach 115.4 million people by 2050[1]. In 2013, the prevalence of dementia in the elderly aged 65 or older in Japan was estimated to be 15%, with an estimated 4.62 million people, and the prevalence of mild cognitive impairment was calculated to be four million people[2]. Therefore, dealing with dementia is an urgent issue.

The long-term care facility (*Roken*) is a new facility for the elderly, established in 1986 as a transitional facility between hospital and home. The number of elderly patients with dementia in *Roken* is rising, and an improvement in dementia care quality is needed[3]. However, at *Roken*, the turnover of nursing staff is high, securing staff is difficult, and chronic staff shortages are serious problems[4]. Prior to this, there have been various reports on factors related to employee burnout in providing elderly long-term care, though it is easy to become exhausted with elderly dementia patients[5]. This is due to the fact that within dementia, there is a high rate of behavioral and psychological symptoms of dementia (BPSD) and this places a heavy burden on employees[6]. In addition, employees' burden and poor interpersonal relationships between elderly dementia patients and employees exacerbate BPSD[6].

The best index for evaluating relationships between patients and employees is expressed emotion (EE)[7,8]. Katsuki et al. developed the Nurse Attitude Scale (NAS) to evaluate nurses' EE [9,10] and studied the factors influencing nurses' EE[11]. However, there are no studies investigating the EE and related factors of *Roken* staff. Therefore, this study elucidated the factors related to burnout of long-term care (LTC) facility employees, including the employees' EE.

2. METHODS

2.1. Subjects

The subjects are nurses and caregivers employed at *Roken*. We distributed 30 surveys to each of the 49 *Roken* belonging to the Nagasaki Association of Geriatric Health Services Facilities (a total of 1.470 surveys), and received responses from 411 people (response rate, 28.0%). The survey period was October to December 2008. The survey was conducted anonymously and respondents were asked to mail it directly after sealing the questionnaire in an envelope. This study received approval from the Nagasaki University Graduate School of Biomedical Sciences Department of Health Ethics Committee (approval number: 08092576).

2.2. Questionnaire

The questionnaire items included the Maslach Burnout Inventory (MBI)[12], Nurse Attitude Scale (NAS)[9], and subjects' basic attributes.

MBI is a scale developed by Maslach[12] to measure burnout, and consists of 22 items evaluated on a 7-point Likert-type scale ranging from never (0 points) to every day (6 points). The scale is composed of three subscales: emotional exhaustion (9 items), depersonalization (5 items), and personal accomplishment (8 items). High burnout is defined as an emotional exhaustion score of 27 points or higher, depersonalization score of 10 points or higher, and personal accomplishment score of 33 points or lower[12]. The reliability and validity of the Japanese version of Maslach Burnout Inventory have been proven in several references[10,13,14].

NAS evaluates staff EE of; it has a 30-item version[9] and a 12-item version[10]. It was created by Katsuki et al. by revising the phrasing of the Japanese version[15] of the Family Attitude Scale [16], a questionnaire for evaluating families' EE. The 30-item version used in this study has a total score of 120 points rated on a 5-point scale (very much applies: 4 points to does not apply at all: 0 points), and is composed of three subscales: positive remarks (10 items), criticism (12 items), and hostility (8 items)[11]. The NAS obtained high reliability and validity in a study of psychiatric

nurses[9,10,11]. When determining the total scores of NAS, the 10 items for positive remarks were reverse calculated. Thus, a high total score on the NAS indicates a high EE of the subjects. For the NAS responses, we used the same method of Katsuki et al.[11], asking subjects to recall one difficult patient from the past two months and then respond.

For basic attributes, we inquired about gender, age, job, work department, night shifts, years of service at current workplace, and length of time dealing with the recalled patient.

2.3. Statistical analyses

For comparison between two groups, we used a Mann-Whitney test, and for comparison between three or more groups, we used a Kruskal-Wallis test. In order to study the magnitude of the independent effects on each factor of the MBI, we performed multiple logistic regression analysis (forced entry method) with the presence of a high score on the MBI subscales as dependent variables. We used SPSS (ver. 17) statistical software and a statistical significance level of 5%.

3. Results

3.1. Sociodemographic characteristics

Of the 411 subjects, 107 were male (26.0%), 303 were female (73.7%), and one person did not respond (0.2%). In age, 115 people were in their 20s (28%), 114 people were in their 40s (27.7%), and 110 people were in their 30s (26.8%), which were the most common ages respectively, and the average age was 37.5 (N = 410, SD = 10.8). For jobs, 112 people (27.3%) were nurses, 291 people (70.8%) were caregivers, nine people were others (2.2%), and one person did not respond (0.2%). For work departments (location), 384 people (93.4%) were responsible for patients living in facilities, 24 people were responsible for home-care patients' outpatient rehabilitation services, and five people were others (1.3%). In regard to night shifts, 343 people (83.5%) worked night

shifts, 61 people (14.8%) did not, five people were other (1.5%), and one person did not respond (0.3%). Average years of clinical experience was 10.1 years (SD ＝ 8.3), and average years of service at current workplace was 5.8 years (SD ＝ 4.6). Ninety (21.9%) people had a dementia specialty ward established in their workplace, 315 people did not have one established (76.6%), and six people did not respond (1.5%).

3.2. Factors Related to Burnout and Mental Health

The percentages of high scorers for each scale were as follows: emotional exhaustion, 197 people (51.6%); depersonalization, 122 people (31.4%); low personal accomplishment, 301 people (83.8%). Cronbach's α coefficients for Emotional Exhaustion, Depersonalization and Personal Accomplishment were 0.85, 0.76 and 0.79, respectively. The mean score on the NAS was 44.28 (N = 371, SD ＝ 18.27). The mean scores on the NAS subscales were positive remarks, 21.9 (N = 389, SD＝6.19, median 22); criticism, 14.86 (N = 397, SD = 9.25, median 14); and hostility, 11.53 (N = 397, SD ＝ 11.53, median 11). Cronbach's α coefficients for Positive Remarks, Criticism and Hostility were 0.81, 0.91 and 0.81, respectively. Table 1 shows the relationship between the MBI subscales and basic characteristics. For emotional exhaustion, a significant difference was seen with the presence of night shifts. For depersonalization, a significant difference was seen with gender, age, and presence of night shifts. For personal accomplishment, significant differences were seen with the presence of night shifts, years of clinical experience, and number of years of service at current workplace.

Table 2 shows the results of multiple logistic regression analysis (forced entry method) performed with scores on the MBI subscales. The NAS subscales were divided into two groups based on the median and analyzed. Significantly correlated factors were: for emotional exhaustion, the NAS subscale of criticism; for depersonalization, male, under 40 years old, and the NAS

subscale of hostility.

4. Discussion

According to Juthberg et al.[17], the percentage of high burnout among nurses working at Sweden's elderly tenant facilities for emotional exhaustion was (N = 131) 22.1%, depersonalization (N = 141) 9.2%, and low personal accomplishment (N = 136) 14.7%. In contrast, results of Asai et al.'s[13] survey targeting 697 Japanese clinical oncologists found the percentage of high burnout to be 23% for emotional exhaustion, 10% for depersonalization, 65% for personal accomplishment. In addition, in Umeno-Nakano et al.'s[14] survey targeting 704 Japanese psychiatrists, the percentage of high burnout for emotional exhaustion was 21%, depersonalization 12.2%, and low personal accomplishment 72%. In comparison with these previous studies, which used the same cut-off scores as this study, the subjects of this study indicated a high level of burnout.

About 70% of the subjects of this study were caregivers, and we can therefore assume that they are working without adequate education on dementia and BPSD, or skills for coping with stress. In addition, a chronic staffing shortage is the norm in the healthcare field. These are speculated to be contributing factors to high burnout.

According to Katsuki et al.[9,11], the mean NAS score of 189 nurses working at a psychiatric hospital was 42.6 (SD = 13.5)[9], and the mean NAS score of 281 nurses working at a different psychiatric hospital was 47.6 (SD = 19.0)[11]. In contrast, Fujita et al.[15] found that the mean FAS scores of 41 families with schizophrenic children was 39.9 (SD = 20.4). The average NAS scores in this study were 44.3 (SD = 18.3), and were close to Katsuki et al.'s[9,11] data from nurses working at psychiatric hospitals.

Results from this study's multiple logistic regression analysis showed that significantly

correlated factors were: for emotional exhaustion, the NAS subscale of criticism; for depersonalization, male, under 40 years old, and the NAS subscale of hostility. Thus, employees' negative expressed emotions toward patients were significantly related to burnout.

The NAS questions items on criticism include "I wish he would leave me alone," "I feel very frustrated with him," and "I wish he were not here." Question items on hostility include "I shout at him," "I lose my temper with him," and "I argue with him," and are considered to be states expressing anger toward the patient through actual behavior. A critical comment on the Camberwell Family Interview[7] is defined as a critical feeling toward the behavior of the patient and hostility is defined as negative feelings toward the patient as an individual in general. It is difficult to say that they match exactly with the NAS's criticism and hostility; however, it is certain that the NAS captures aspects that are close to EE. There have been studies targeting families of dementia patients that investigated the relationship between EE and care burden and abuse[18,19,20,21]. There was also a study on the care burden of dementia patients that targeted care-facility employees[22]; however, there are no studies as of yet investigating the EE of care facility employees. Therefore, we believe there is great significance to this study, which elucidated the factors related to burnout and mental health of LTC employees, including the employees' EE.

In our study, the another factors significantly related to depersonalization were male and less than 40 years old. These can be regarded as major problems in long-term care facilities for the elderly in Japan. First, for men, the following may influence depersonalization: tendency to be strongly affected by higher career consciousness, and lack of preparation for an adequate labor environment, such as an increase in pay level appropriate to their career and ability. Second, for younger employees, the following may influence depersonalization: poor human experience and/or care experience, poor coping strategies for BPSD and/or overall stress[23].

In a review of 17 studies, Moyle et al.[24] concluded that behavior skill training programs that

equip LTC staff with education on mental illness in the elderly and skills for coping with disruptive behavior are effective. Since adequate specialized education is thought to be lacking among LTC caregivers, this type of program is believed to be effective.

Numerous studies have investigated the effectiveness of training for LTC employees. Compared to routine care, person-centered care and care mapping was found to be effective in reducing patient agitation[25] and also contributed to alleviating staff burnout[26].

In any case, the needs of dementia patients are complex, and since they change over time, new care approaches will continually be necessary. Additionally, as support by one person is challenging, support by interdisciplinary teams and overall maintenance of the care environment is needed.

Last, we would like to discuss this study's limitations and future issues. The NAS used in this study included question items regarding negative emotions toward patients, to which professional staff find it difficult for to respond frankly. Therefore, in consideration of ease of response, we did not collect basic data about the "recalled" patients in this study. Despite such considerations, the return rate for our study was low, and there seem to be limitations in terms of the universality of the results. We will investigate this issue in the future; however, the low return rate might have been influenced by high burnout of employees. In order to discuss the basis for the relationship between staff burnout and BPSD in the inhabitants of LTC facilities, it is necessary to have data including number of patients with dementia and prevalence of BPSD, as well as to conduct studies of staff-patient dyads. We intend to address these issues in the future.

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Table 1 Bivariate association of basic attributes with MBI subscales in Long Term Care Facilities

	Emotional Exhaustion			Depersonalization			Personal Accomplishment		
	n	mean(SD)	p	n	mean(SD)	p	n	mean(SD)	p
Gender									
Male	101	27.3(10.9)	0.950	103	8.8(7.0)	0.011 *	99	22.5(9.6)	0.070
Female	280	27.3(10.7)		284	6.8(5.9)		259	24.4(9.1)	
Age									
20-29	110	28.0(10.4)	0.576	112	9.1(6.7)	0.000 **	103	24.4(9.5)	0.434
30-39	103	28.0(10.0)		104	7.4(6.1)		96	24.3(8.2)	
40-49	106	27.0(11.4)		108	6.8(6.1)		101	23.9(9.6)	
50-59	60	25.8(11.4)		60	4.9(5.3)		55	22.0(10.0)	
Job									
Nurse	103	27.1(11.0)	0.715	104	7.0(6.3)	0.474	96	24.8(9.2)	0.370
Care Giver	270	27.7(10.5)		275	7.5(6.3)		254	23.7(9.3)	
Work Department									
Outpatient	19	27.2(12.3)	0.964	20	5.2(4.9)	0.124	16	19.0(9.7)	0.050
Inpatient	357	27.2(10.6)		362	7.4(6.4)		337	24.1(9.2)	
Night Shift									
Yes	320	27.8(10.7)	0.042 *	326	7.6(6.3)	0.002 **	302	24.4(9.0)	0.044 *
No	57	24.5(10.5)		57	4.8(4.5)		53	21.6(10.6)	
Years of Clinical Experience									
Less than 3 years	45	26.1(10.7)	0.475	47	7.3(6.4)	0.186	44	23.6(8.6)	0.017 *
3 to less than 6 years	86	26.3(10.9)		87	6.7(5.3)		80	26.2(9.5)	
6 to less than 10 years	97	28.5(10.1)		98	8.8(7.4)		88	21.8(9.2)	
10 years or more	148	27.4(11.2)		150	6.7(6.0)		141	23.7(9.0)	
Years of Service at Current Workplace									
Less than 3 years	106	27.2(10.5)	0.423	108	7.1(6.0)	0.829	99	24.0(8.4)	0.037 *
3 to less than 6 years	111	26.3(11.2)		113	7.6(6.7)		105	25.5(9.5)	
6 to less than 10 years	80	27.7(9.7)		82	7.7(6.3)		79	22.0(9.5)	
10 years or more	79	28.8(11.3)		79	6.9(6.2)		70	22.5(8.7)	
Dementia Ward									
Yes	84	26.8(11.1)	0.486	86	6.9(5.8)	0.639	82	22.6(9.7)	0.251
No	295	27.6(10.6)		299	7.4(6.4)		274	24.3(9.2)	

Mann-Whitney test, Kruskal-Wallis test *p<0.05, **p<0.01

Table 2 Factors Related to MBI Subscales

Independent Variable	Emotional Exhaustion		Depersonalization		Personal Accomplishment	
	OR (95% CI)	p	OR (95% CI)	p	OR (95% CI)	p
Gender						
Male/Female	0.89 (0.53–1.52)	0.677	1.99 (1.11–3.58)	0.021 *	1.27 (0.57–2.83)	0.561
Age						
−39/40+	1.30 (0.79–2.14)	0.312	1.84 (1.03–3.27)	0.038 *	1.07 (0.53–2.17)	0.855
Job						
Nurse/Care Giver	1.14 (0.63–2.06)	0.668	1.72 (0.88–3.38)	0.112	0.53 (0.24–1.18)	0.122
Work Department						
Outpatient/Inpatient	1.73 (0.49–6.07)	0.391	1.10 (0.24–5.07)	0.908	1.55 (0.17–13.95)	0.694
Night Shift						
Yes/No	1.96 (0.91–4.22)	0.085	2.17 (0.83–5.69)	0.115	0.89 (0.30–2.63)	0.837
Years of Clinical Experience						
6+/−5	1.08 (0.57–2.07)	0.810	1.63 (0.79–3.35)	0.185	1.35 (0.56–3.26)	0.506
Years of Service at Current Workplace						
6+/−5	1.22 (0.66–2.25)	0.523	0.69 (0.35–1.35)	0.277	1.48 (0.64–3.43)	0.362
Dementia Ward						
Yes/No	0.81 (0.47–1.39)	0.444	0.83 (0.45–1.53)	0.548	1.60 (0.70–3.68)	0.266
NAS						
Positive Remarks						
＞22/≦22	0.82 (0.50–1.35)	0.437	0.91 (0.52–1.60)	0.751	1.70 (0.84–3.45)	0.141
Criticism						
＞14/≦14	1.74 (1.01–3.00)	0.046 *	1.67 (0.91–3.05)	0.095	1.07 (0.50–2.31)	0.856
Hostility						
＞11/≦11	1.04 (0.61–1.77)	0.874	2.99 (1.65–5.42)	<0.001 **	0.71 (0.33–1.50)	0.363

Logistic Regression Analysis (Forced Entry Method) *p<0.05, **p<0.01
OR: Odds Ratio; CI: Confidence interval