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Characteristics of home care supporting clinics providing home care for frail elderly persons living alone in Japan

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ABSTRACT

To explore the characteristics of home care supporting clinics providing home care for frail elderly persons living alone (EPLA), a self-administered questionnaire was mailed to 998 home care supporting clinics in the 23 wards of Tokyo, Japan between July and August 2009. Clinics providing home care for the frail EPLA significantly collaborated with 4 or more home visit nursing stations (42.5%) and 4 or more care managers (58.7%) and had sufficient medical care equipment, such as an oxygen inhaler, ventilator, and intravenous hyperalimentation. Sixty-one percent of the clinics which provided care for the 18 patients who died at home collaborated with 4 or more care managers. Our findings suggest that the factors enabling home care for frail EPLA are as follows: (1) collaboration with care managers, (2) collaboration with home visit nursing stations, (3) sufficient medical care equipment.

1. Introduction

In Japan, 22.1% of the population is aged 65 years or over, 22.0% of which live alone (Ministry of Health, Labour and Welfare, 2008). Japanese long-term care insurance (LTCI) was introduced in 2000 to promote the socialization of care for the frail elderly (Tsutsui and Muramatsu, 2005). Under the LTCI, care (support) levels are classified into 7: support levels 1 and 2, and need of care levels 1–5 (Tsutsui and Muramatsu, 2007). A limited number of elderly persons living alone (EPLA) who receive home care are eligible for need of care level 3 or more under the LTCI (Fujino and Matsuda, 2009). These elderly persons are increasing with the advent of an extremely aged society (Ministry of Health, Labor and Welfare, 2008) and home care services are facing increasing challenges to meet the needs of frail EPLA. The Japanese Ministry of Health, Labor and Welfare encourage home care providers to promote home care services for EPLA with many health risks and has strongly supported the dissemination of home care services, with coverage of home care supporting clinics by National Medical Insurance since 2006. The number of home care supporting clinics has increased from 8595 in May 2004 to 10480 in June 2009 (Byoin Shinryosho Jouhou). The Japan Network of Home Care Supporting Clinics was established to improve the quality of home care supporting clinics in 2006 (Japan Network of Home Care Supporting Clinics). The association considers that it is important to develop support structures for frail EPLA.

Previous studies on factors influencing home deaths demonstrated that it is difficult for EPLA to be cared for and to die at home (Ahlner-Elmqvist et al., 2004; Fukui et al., 2004; Gomes and Higginson, 2006; Akiyama et al., 2008). Few studies have examined the factors enabling home death and the home care of frail EPLA (Aoun et al., 2007), especially EPLA eligible for need of care level 3 or more under the LTCI (Fujino and Matsuda, 2009).

Therefore, this study was conducted to explore the characteristics of home care supporting clinics providing home care for EPLA eligible for need of care level 3 or more under the LTCI.

2. Methods

2.1. Sample

The study was an anonymous mailed survey of 998 clinics in the 23 wards of Tokyo, Japan, which were certified as home care supporting clinics by the Japanese Ministry of Health, Labor and Welfare. This study was performed between July and August 2009 in collaboration with the Japan Network of Home Care Supporting Clinics. This survey protocol was approved by the Ethics Committee of the Department of Medicine, Osaka University.

2.2. Measurements

We asked the home care supporting clinics to provide information about one recent patient as follows: (1) the patient

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received home care between January and December 2008; (2) the patient was aged 65 years or over; (3) the patient had lived on his/her own; (4) the patient was entitled to need of care level 3 or over under the LTCI. In addition, we asked about the clinic's characteristics, the number of people who died at home, collaboration with hospitals, other clinics, home visit nursing stations and care managers.

2.3. Statistical analysis

We analyzed the characteristics between clinics that provided home care to frail EPLA requiring need of care level 3 or more under the LTCI (care group) and clinics that did not (non-care group) using the *t*-test and χ^2-test (Fisher exact tests). Statistical analysis was performed using SPSS 12.0J for Windows. The level of significance was set at $p = 0.05$.

3. Results

Of the 998 clinics, 4 were returned due to an incorrect address. We received 183 responses (response rate, 18.4%). Of 183 respondents, 17 responses without any answers were excluded, and 166 were finally analyzed (effective response rate, 16.7%). Of 166 clinics, 107 provided home care to frail EPLA requiring need of care level 3 or more under the LTCI.

Table 1 shows the comparison of characteristics between the care group and the non-care group. The care group significantly had sufficient medical care equipment, such as oxygen inhalation, ventilators, and intravenous hyperalimentation (IVH), and collaborated with 4 or more home visit nursing stations and 4 or more care managers.

The characteristics of the frail EPLA requiring need of care level 3 or more under the LTCI are shown in Table 2. Their characteristics were as follows: 85.0 ± 8.9 years (mean ± S.D.), females (65.4%), and suffering from cancer (22.4%), heart disease (20.6%), cerebrovascular disease (20.6%), or dementia (30.8%).

Tables 3 and 4 and Fig. 1 show the outcome of frail EPLA. Sixty-one percent of clinics which provided care for the 18 patients who died at home had collaborated with 4 care managers or more and 53.3% of clinics which provided care for the 15 patients who were admitted to hospital had not collaborated with care managers. Of 7 patients who had no relatives, 4 were placed in care facilities.

Table 1
Comparison of characteristics between clinics providing home care to frail elderly patients living alone and clinics that did not ($n = 166$), *n*, mean ± S.D., *n*(%).

Variables	Care group	Non-care group	*p*=
Number	107	59	
Health workers			
Physicians	2.8 ± 3.7	2.2 ± 2.4	0.254
Nurses[a]	2.8 ± 4.1	2.4 ± 2.6	0.588
Social worker (Yes)	12(12.6)	5(10.6)	1.000
Others (Yes)	46(48.9)	18(38.3)	0.283
Providing medical care			
Oxygen inhalation	99(92.5)	47(81.0)	0.040
Ventilator	48(44.9)	15(25.9)	0.019
Intravenous hyperalimentation (IVH)	77(72.0)	29(50.0)	0.006
Percutaneous endoscopic gastrostomy (PEG)	77(72.0)	33(56.9)	0.058
Palliative medicine	79(73.8)	40(690)	0.586
Others	20(18.7)	2(3.4)	0.007
Collaboration with hospitals (*n*)[b]			
0	2(1.9)	3(5.4)	0.127
1	29(27.4)	18(32.1)	
2	19(17.9)	13(23.2)	
3	21(19.8)	8(14.3)	
≥4	35(33.0)	14(25.0)	
Collaboration with other clinics (*n*)[b]			
0	38(37.3)	21(37.5)	0.562
1	25(24.5)	16(28.6)	
2	13(12.7)	9(16.1)	
3	9(8.8)	5(8.9)	
≥4	17(16.7)	5(8.9)	
Collaboration with home visit nursing stations (*n*)[b]			
0	6(5.7)	8(14.3)	0.035
1	18(17.0)	11(19.6)	
2	14(13.2)	13(23.2)	
3	23(21.7)	6(10.7)	
≥4	45(42.5)	18(32.1)	
Collaboration with care managers (number)[b]			
0	31(29.8)	27(50.0)	0.003
1	2(1.9)	1(1.9)	
2	5(4.8)	8(11.1)	
3	5(4.3)	2(3.7)	
≥4	61(58.7)	18(33.3)	
Emergency medical care			
Response by own clinic	91(92.9)	49(87.5)	0.382
Time taken to visit the patient's home (min)[b]			
≤15	45(42.5)	20(36.4)	0.272
16–30	53(50.0)	27(49.1)	
31–45	6(5.7)	7(12.7)	
46–60	2(1.9)	1(1.8)	
Status of utilization[a,c]			
Patients who receive home care	133.1 ± 337.0	39.0 ± 76.2	0.010
Patients living alone who receive home care	16.5 ± 44.1	2.4 ± 7.5	0.003
Patients who died at home	9.0 ± 19.1	3.4 ± 6.5	0.009
Patients living alone who died at home	0.8 ± 1.7	0.2 ± 0.5	0.001

[a] *t*-test.
[b] Mann–Whitney-test.
[c] January–December, 2008.

4. Discussion

Our results have 3 implications for improving home care for the growing numbers of frail EPLA eligible for need of care level 3 or more under the LTCI.

First, we found that home care supporting clinics which provided care for frail EPLA eligible for need of care level 3 or more under the LTCI significantly collaborated with 4 or more care managers. Also, 61.0% of clinics which provided care for the 18 patients who died at home had collaborated with 4 care managers or more, and 53.3% of clinics which provided care for the 15 patients who were admitted to hospitals had no collaboration with care managers. Previous studies indicated that home death was related with the preference of patients and caregivers to die at home (Fukui et al., 2004; Akiyama et al., 2007). Hanabusa (2007) reported that EPLA had no caregivers to inform their preference for a place of death; thus, it is necessary to confirm their preferences while requiring a low need of care under the LTCI. Because the role of the certified care manager is to make a care plan in consultation with the patient and to coordinate services and providers (Houde et al., 2007), they understand patients' preferences for their place of death while requiring a low need of care and to share the information with the home care physician. Therefore, it appears that patients with clinics providing home care in collaboration with care managers were admitted to the hospital less frequently because they received continuous home care based on the patients' preferences.

Second, it was indicated that such home care supporting clinics significantly collaborated with 4 or more home visit nursing stations. Fukui et al. (2003) showed that patients who were visited frequently by a home care nurse were more likely to die at home. Our results suggest that collaboration with home visit nursing stations and home care supporting clinics plays an important role in enabling continuous home care as well as the home death of frail EPLA.

Third, this study found that these clinics significantly had sufficient medical care equipment, such as oxygen inhalers,