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RESEARCH PAPER

# *Nursing care in multifunctional small group homes providing day, visiting and overnight services for older people living at home*

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**Nursing care in multifunctional small group homes providing day, visiting and overnight services for older people living at home**

Home care programs for older people have been developed around the world. Nurses are key to these programs. The aim of this study is to explore details of the nursing activities used in group homes to provide a basis for describing effective nursing practices in such facilities. A self-administered questionnaire was sent to 240 randomly selected facilities throughout Japan in 2013. Responses indicated that the activities of nurses in managing the health of older people included determining the need for medical consultations, dealing with emergencies, and making arrangements for the use of flexible care services. Nursing activities were directly related to the percentage of older people in each facility with diagnoses such as dementia or heart disease. Nurses reported low general self-efficacy for some of the more specialized nursing activities they performed. Nursing activities are performed with the aim of supporting older people with high health care needs to continue living at home; are tailored to the characteristics of residents and contribute to the provision of timely health examinations and flexible arrangement of services. Findings indicate that it might be advantageous to increase the nursing staffing at these facilities, to provide care guidelines and training opportunities to increase nurse self-efficacy.

**Key words:** frail elderly, group homes, nursing care, referral and consultation.

## SUMMARY STATEMENT

What is already known about this topic?

- Day services, visiting services and short-stay care services are currently provided to enable older people who require care or assistance to continue living in their homes by supporting their activities of daily living and health.
- Such services have previously been provided by individual day, visiting or overnight care service facilities. Multifunctional small group homes are newly established facilities that can comprehensively provide these services.
- Nurses have important roles at these facilities but details of their activities have not yet been clarified.

What this paper adds:

- Nursing activities in multifunctional small group homes include health management, determination of the need for medical consultation and making judgments in emergencies during day, home or overnight care service hours.

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- Nursing activities vary in relation to residents' clinical state.
- In 25% of study facilities the content of care services was changed based on nurses' judgments.

The implications of this paper:

- Policy makers and managers should consider increasing the number of nurses in facilities with a large number of residents and examining their work patterns to provide opportunities for care enhancement.
- Policy makers and managers should consider providing training opportunities to increase nurses' self-efficacy and promote their activities, as well as to develop nursing activity guidelines.

## INTRODUCTION

Home care for older people has been promoted as a way to improve conventional medical and welfare systems and reduce medical costs in countries with rapidly ageing populations, and many countries are exploring new models and approaches to provide such services. For example, the Program of All-Inclusive Care for the Elderly (PACE) in the United States provides comprehensive medical care and long-term care services to support older individuals living at home. PACE programs have reduced hospitalisation rates among enrolees and have encouraged continuation of home-based care.[1,2] These programs also improve functional outcomes for older people, and reduces the cost of care.[3] Aging in Place (AIP) programs have also contributed to positive health outcomes among group home residents.[4,5] In the Netherlands, an assessment and management program provided to frail older individuals has successfully improved the detection and management of dementia.[6,7] Nurses are an integral part of these home-based care programs and have contributed greatly to their findings.

In Japan, the Long-term Care Insurance System was established to support independent community living for older people[8] and to support the launch of multifunctional small group home services in 2006.[9] As Japan's population ages, the number of older people requiring long-term care and support is increasing rapidly.[10] To help these individuals remain well and living in their communities, any changes to their situation must be identified, so that community-based flexible care and support can be provided. Because the provision of long-term care in a small and home-like environment has been shown to be an effective way to improve the quality of life and cognitive/functional status of older people,[11,12] multifunctional small group home services were the chosen form of support. These 'group homes' are facilities that support up to 25 older community residents to carry on with activities of daily living, by flexible provision of various types of care services, on a 24 h basis. Day care is the main service; overnight and visiting care are provided when necessary. Group homes are required to employ nurses, and group home care is regarded as a new field in nursing. Although a qualitative study has examined the roles of nurses and care workers in group homes,[13] details of the nursing activities in these facilities have not yet been clarified.

Identifying the types of nursing activities provided in group homes as well as the related characteristics of the facilities, service residents and nurses might contribute to developing measures to promote the provision of effective nursing services. This might also provide a basis for development of services to support older people living at home in other countries with rapidly ageing populations.

### Aims

The aim of this study was to explore details of the nursing activities used in group homes to provide a basis for describing effective nursing practices in such facilities. Our research questions were:

1. What types of nursing activities are performed in group homes?
2. What are the characteristics of facilities, service residents and nurses that are linked to particular nursing activities?

## METHODS

### Design

This study used a descriptive, cross-sectional survey design.

### Sample

A random sample was selected of 1000 group homes from the 3192 in Japan, registered with the Welfare and Medical Service Network System (WAMNET).[14] Questionnaires were distributed to administrators and nurses at each selected group home.

### Data collection

Two separate versions of the survey were developed by the research team.

One survey, for administrators, contained questions on: (1) facility attributes (business entity, facilities on site, and number of staff members and residents); and (2) resident attributes (age, Long-term Care Grade, family compositions).

The second survey, for nursing staff, included questions on: (1) residents' health condition (disease, identified need for medical care or consultation, medication management, and any emergency management required within the last 3 months); (2) nurse attributes (age, years of experience working at medical institutions, years of experience working at the present facility and working pattern); (3) 17 items based on nursing activities used within the last month, such as monitoring residents' health conditions and medication management,[13,15] and (4) the self-efficacy of nurses, as measured by the General Self-Efficacy Scale (GSES).[16,17] Self-efficacy was examined to assess what nurses believed they could do with what was available under a variety of circumstances.[18]

Two anonymous self-administered questionnaires with a stamped self-addressed envelope for postal return of the questionnaires were distributed at one time by mail to administrators and nurses in January 2013. We decided that we were unlikely to receive any additional responses after the end of March 2013.

## Data analysis

Descriptive statistics including mean, standard deviation and percentages were used to summarize characteristics of facilities, residents and nurses. Facility, resident, and nursing characteristics were dichotomized into higher and lower value subgroups using group mean values. Relationships among facility, resident and nurse attributes and usage ratios of the 17 listed nursing activities were examined using chi-square and Fisher's exact tests. All statistical analyses were performed using IBM SPSS Statistics 19 (IBM Corp., Armonk, NY, USA). All statistical tests were two-sided, and a $p$-value of $<0.05$ was considered significant.

## Ethical considerations

A written document explaining the study objective, the preservation of anonymity and that participation was voluntary was included with the questionnaire. The receipt of a completed questionnaire was regarded as a respondent's consent to participate in the study. This study was conducted with the approval of the Ethics Committee of Kanazawa University (No.425).

# RESULTS

There were 240 facilities from which both administrators and nurses responded (response rate 24.0%).

## Facility, nurse and resident attributes

The attributes of facilities and residents are shown in Tables 1 and 2. Table 1 shows that nearly 75% of facilities were non-profit or social welfare corporations; over 90% provided medication management and outpatient medical consultation, and over 60% conducted home visits. Ambulance transportation had been used recently at more than 40% of facilities to deal with changes in residents' pathological conditions or accidents.

On average, facilities had 19.4 residents (SD = 4.4) and employed 1.5 nurses (SD = 0.8). Table 2 shows that close to 75% of residents were female and more than 75% were 80 years old or more. In total, 9.2% of group home residents in this study were classified as Long-term Care Grade 5, the highest level of care dependency.

The vast majority of nurses (82.8%) were 40 years old or more: 62 (26.1%) were aged 40–49 years; 91 (38.2%) aged 50–59 years and 44 (18.5%) aged 60–69 years. The mean number of years working in group homes was 2.9 years (SD = 2.0). Approximately two-thirds of nurses (66.2%, $n = 151$) worked full-time and 33.8% ($n = 77$) worked part-time.

## Nursing activities

Table 3 shows the percentage of facilities using each of the 17 listed nursing activities. Four of these activities were carried out in more than 90% of facilities; these were, monitoring residents' health conditions, medication management, determining the necessity of medical consultation and dealing with changes in pathological condition. Nurses' reportage of activity usage was lower than 50% for four specific activities: providing support for residents with more severe medical needs, training of care workers, performing end-of-life care and arranging for overnight care service and changing services. Nurses determined the need for medical consultation at more than 90% of facilities and were engaged in emergency management and care at more than 70%.

## Relationships amongst facility attributes, nurse attributes and nursing activities

Statistically significant associations were found between several facility attributes and their nursing activities. For example, a higher percentage of facilities owned by medical corporations had residents with greater medical needs (52.6%, $p = 0.017$) than other entities (31.8%), and a greater percentage of group homes without an attached medical facility reported dealing with changes in

**Table 1** Basic characteristics and medical care provided by facilities

| | | Number of facilities[†] | % |
|---|---|---|---|
| Business entity | For-profit corporation | 89 | 37.2 |
| | Social welfare corporation | 88 | 36.8 |
| | Medical corporation | 38 | 15.9 |
| | Not-for-profit organization | 18 | 7.5 |
| | Incorporated association/foundation | 3 | 1.3 |
| | Others | 3 | 1.3 |
| Attached facilities | Visiting care facility | 64 | 26.7 |
| (Multiple answers were possible) | Group home | 54 | 22.5 |
| | Nursing care and welfare facility | 23 | 9.6 |
| | Hospital/clinic | 22 | 9.2 |
| | Residence with care services | 20 | 8.3 |
| | Nursing home for older people | 20 | 8.3 |
| | Home care support station | 13 | 5.4 |
| | Long-term Care Insurance-covered facility | 12 | 5.0 |
| | Others | 38 | 15.8 |
| | None | 82 | 34.2 |
| Medical care | Skin care | 172 | 71.7 |
| | Enema/faecal removal | 126 | 52.5 |
| | Pressure injury treatment | 104 | 43.3 |
| | Insulin administration | 61 | 25.4 |
| | Blood sugar management | 57 | 23.8 |
| | Bladder catheter placement | 36 | 15.0 |
| | Tube feeding | 32 | 13.3 |
| | Infusion therapy | 17 | 7.1 |
| Medical consultation | Outpatient | 232 | 96.7 |
| | Home visit | 152 | 63.3 |
| Medications | Medication management | 219 | 91.3 |
| Emergency management implemented | Ambulance transportation | 97 | 40.4 |
| within the last 3 months | Unscheduled medical consultation | 158 | 65.8 |
| | Managed within the facility | 57 | 23.8 |
| Nurses' ages | 20–29 | 5 | 2.0 |
| | 30–39 | 25 | 10.4 |
| | 40–49 | 62 | 25.8 |
| | 50–59 | 91 | 37.9 |
| | 60–69 | 44 | 18.3 |
| | 70–79 | 11 | 4.6 |
| | Unclear | 2 | 0.8 |
| | | Mean | SD |
| Number of residents | | 19.4 | 4.4 |
| Number of nurses | | 1.5 | 0.8 |
| Number of care workers | | 10.3 | 4.2 |
| Number of day staff members | | 5.9 | 2.8 |
| Number of night staff members | | 1.3 | 1.3 |

[†] $N = 240$.

**Table 2** Demographic and clinical data of facility residents

| | | Number | % |
|---|---|---|---|
| Sex | Male | 1186 | 25.6 |
| ($N = 4625$) | Female | 3439 | 74.4 |
| Age | Under 65 | 101 | 2.3 |
| ($N = 4470$) | 65–69 | 115 | 2.6 |
| | 70–74 | 228 | 5.1 |
| | 75–79 | 612 | 13.7 |
| | 80–84 | 1072 | 24.0 |
| | 85–89 | 1337 | 29.9 |
| | Over 89 | 1005 | 22.5 |
| Long-term care grade[†] | Assistance Grade 1 | 140 | 3.1 |
| ($N = 4570$) | Assistance Grade 2 | 257 | 5.6 |
| | Care Grade 1 | 942 | 20.6 |
| | Care Grade 2 | 1152 | 25.2 |
| | Care Grade 3 | 1017 | 22.3 |
| | Care Grade 4 | 641 | 14.0 |
| | Care Grade 5 | 421 | 9.2 |
| | | Mean | SD |
| Number of disease diagnosis per facility | Hypertension | 8.6 | 4.4 |
| ($N = 4470$) | Heart disease | 4.5 | 2.9 |
| | Cerebrovascular disease | 4.9 | 3.8 |
| | Diabetes | 2.8 | 1.9 |
| | Dementia | 13.0 | 5.7 |

[†]The long-term care grade is an index, based on the Long-term Care Insurance System, which indicates the level of need for care services. Those classified as care grades 1, 2 and 3 are permitted to use insurance-covered care services for 32–49, 50–69 and 70–89 min per day, respectively.[31]

pathological conditions (92.7% vs. 72.7%, $p = 0.008$) and advising care workers (88.5% vs. 72.7%, $p = 0.047$). The number of residents per facility was also related to several use ratios. Group homes with more residents conducted more nursing assessments (71.4% vs. 52.3%, $p = 0.005$), managed more emergencies outside service hours (58.7% vs. 42.3%, $p = 0.009$) and relied more on nursing judgment and care in emergencies (77.8% vs. 60.4%, $p = 0.003$).

Working patterns appeared to have a major influence on the use of nursing activities. Nurses who worked full-time made greater use of 12 of the listed activities than those who worked part-time ($p < 0.05$). Length of experience at medical institutions was not associated with nursing activities conducted in the previous month.

Patterns of nursing activities varied with resident and nurse characteristics; for example, associations between nursing activities and residents' diseases (Tables 4–6), and between nursing activities and nurses' years of experience at the facility (Table 7) revealed different patterns. Nurses at facilities that had more residents with heart disease tended to be engaged in more medication management and care-dependency prevention activities whereas nurses at facilities that had more residents with dementia were more likely to be engaged in determination of medical consultation need and handling changes in residents' pathological condition. More experienced nurses tended to carry out particular activities to a greater extent, such as emergency management outside service hours and end-of-life care.

## Relationships among nurses' GSES scores, activities and attributes

The mean GSES score was 58.5 (SD = 11.7). GSES scores were not statistically significantly associated with years of experience or working conditions but were linked with

**Table 3** Number and percentage of facilities conducting specific nursing activities

| No. | Nursing activity | Number of facilities† | % |
|---|---|---|---|
| 1 | Monitoring users' health conditions (observation, vital sign measurement) | 234 | 97.5 |
| 2 | Medication management (e.g. dose and schedule adjustments) | 221 | 92.1 |
| 3 | Determining the necessity of medical consultation | 218 | 90.8 |
| 4 | Dealing with changes in the pathological condition | 218 | 90.8 |
| 5 | Advising care workers from a nursing viewpoint | 209 | 87.1 |
| 6 | Providing care workers with daily guidance on residents' health | 203 | 84.6 |
| 7 | Providing daily medical care | 185 | 77.1 |
| 8 | Nursing judgment and care in emergencies (e.g. when accidents or falls occur) | 168 | 70.0 |
| 9 | Cooperating with other medical professionals (e.g. doctors and care managers) | 158 | 65.8 |
| 10 | Conducting assessment from a nursing viewpoint | 149 | 62.1 |
| 11 | Supporting residents' families in relation to medical care | 135 | 56.3 |
| 12 | Performing care-dependency prevention measures (e.g. rehabilitation and accident prevention) | 129 | 53.8 |
| 13 | Managing emergencies outside of service hours | 122 | 50.8 |
| 14 | Providing support for residents with higher medical needs | 85 | 35.4 |
| 15 | Training care workers | 82 | 34.2 |
| 16 | Arranging for overnight care service use and changing services | 64 | 26.7 |
| 17 | Performing end-of-life care | 41 | 17.1 |

†$N = 240$.

**Table 4** Relationships between nursing activities and high/low numbers of residents with heart disease per facility‡

| | | Number of facilities with high/low number of residents with heart disease | | | | | |
|---|---|---|---|---|---|---|---|
| Nursing activities | | Low | | High | | $\chi^2$ | $p$† |
| Medication management (e.g. dosage adjustment and distribution) | Using | 120 | 88.9% | 95 | 100% | 11.292 | <0.001 |
| | Not using | 15 | 11.1% | 0 | 0% | | |
| Performing care-dependency prevention measures | Using | 61 | 45.2% | 62 | 65.3% | 9.035 | 0.003 |
| (e.g. rehabilitation and accident prevention) | Not using | 74 | 54.8% | 33 | 34.7% | | |
| Providing support for residents with higher medical needs | Using | 40 | 29.6% | 43 | 45.3% | 5.909 | 0.018 |
| | Not using | 95 | 70.4% | 52 | 54.7% | | |
| Training care workers | Using | 37 | 27.4% | 41 | 43.2% | 6.172 | 0.013 |
| | Not using | 98 | 72.6% | 54 | 56.8% | | |
| Arranging for overnight care service use and changing service contents | Using | 27 | 20.1% | 35 | 36.8% | 7.845 | 0.005 |
| | Not using | 107 | 79.9% | 60 | 63.2% | | |

‡Based on chi-square tests; values for each item categorized into two groups based on the mean.

†$p$ for results of chi-square tests.

Note: Only those values that were significantly different are included.

several nursing activities. Low self-efficacy scores were more often seen in those who performed (rather than did not perform) care-dependency prevention measures and supported residents with higher medical needs (Table 7).

## DISCUSSION

We found that nurses in multifunctional small group homes had an important role in managing residents' health, determining the need for medical consultation and dealing with

**Table 5** Relationships between nursing activities and high/low numbers of residents with diabetes per facility[‡]

| Nursing activities | | Number of facilities with high/low number of residents with diabetes | | | | $\chi^2$ | $p^{\dagger}$ |
|---|---|---|---|---|---|---|---|
| | | Low | | High | | | |
| Medication management (e.g. dosage adjustment and distribution) | Using | 2 | 10.5% | 82 | 37.6% | 5.605 | 0.022 |
| | Not using | 17 | 89.5% | 136 | 62.4% | | |

[‡]Based on chi-square tests; values for each item categorized into two groups based on the mean.

[†]$p$ for results of chi-square tests.

Note: Only those values that were significantly different are included.

**Table 6** Relationships between nursing activities and high/low numbers of residents with dementia per facility[‡]

| Nursing activities | | Number of facilities with high/low number of residents with dementia | | | | $\chi^2$ | $p^{\dagger}$ |
|---|---|---|---|---|---|---|---|
| | | Low | | High | | | |
| Determining the necessity for medical consultation | Using | 98 | 86.7% | 120 | 94.5% | 4.327 | 0.045 |
| | Not using | 15 | 13.3% | 7 | 5.5% | | |
| Dealing with changes in the pathological condition | Using | 98 | 86.7% | 120 | 94.5% | 4.327 | 0.045 |
| | Not using | 15 | 13.3% | 7 | 5.5% | | |
| Providing daily medical care | Using | 78 | 69.0% | 107 | 84.3% | 7.847 | 0.006 |
| | Not using | 35 | 31.0% | 20 | 15.7% | | |
| Cooperating with other medical professionals (e.g. doctors and care managers) | Using | 66 | 58.4% | 92 | 72.4% | 5.236 | 0.029 |
| | Not using | 47 | 41.6% | 35 | 27.6% | | |
| Conducting assessment from a nursing viewpoint | Using | 62 | 54.9% | 87 | 68.5% | 4.724 | 0.033 |
| | Not using | 51 | 45.1% | 40 | 31.5% | | |
| Providing support for residents with higher medical needs | Using | 30 | 26.5% | 55 | 43.3% | 7.342 | 0.007 |
| | Not using | 83 | 73.5% | 72 | 56.7% | | |

[‡]Based on chi-square tests; values for each item categorized into two groups based on the mean.

[†]$p$ for results of chi-square tests.

Note: Only those values that were significantly different are included.

emergencies as well as making arrangements for flexible care services. We examined the relationships among characteristics of the facilities, residents and nursing activities. As might be expected, we found different patterns of disease associated with different nursing activities.

Nursing activities have a number of functions in multifunctional small group homes. In a large number of facilities, nurses determine the need for medical consultation and manage emergency care. The majority of residents in this study required regular medical consultation and medication management. More than 40% of facilities used ambulance transportation because of residents' medical needs. These activities suggest that residents have a need for high levels of care. Previous studies have found that the use of at-home or community-based care services does not directly improve residents' functional status,[19] but does prevent hospitalization.[20] Another study in the United States reported that the use of home health services delayed nursing home admission.[21] The large number of nurses in this study who determined need for medical consultations and who were engaged in emergency management and care suggests the potential that these nursing activities might

**Table 7** Relationships between nursing activities, nurses' years of experience and nurses' GSES score‡

| Nursing activities | | Nurse attributes | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Years of experience working in facilities | | | | | | GSES score | | | | | |
| | | Short Nurses | | Long Nurses | | $\chi^2$ | $p^\dagger$ | Low Nurses | | High Nurses | | $\chi^2$ | $p^\dagger$ |
| Performing care-dependency prevention measures (e.g. rehabilitation and accident prevention) | Using | | | | | | | 65 | 60.7% | 49 | 45.0% | 5.404 | 0.021 |
| | Not using | | | | | | | 42 | 39.3% | 60 | 55.0% | | |
| Managing emergencies outside of service hours | Using | 55 | 44.4% | 67 | 58.8% | 4.941 | 0.028 | | | | | | |
| | Not using | 69 | 55.6% | 47 | 41.2% | | | | | | | | |
| Providing support for residents with higher medical needs | Using | | | | | | | 47 | 43.9% | 30 | 27.5% | 6.332 | 0.016 |
| | Not using | | | | | | | 60 | 56.1% | 79 | 72.5% | | |
| Performing end-of-life care | Using | 15 | 12.1% | 26 | 22.8% | 4.778 | 0.039 | | | | | | |
| | Not using | 109 | 87.9% | 88 | 77.2% | | | | | | | | |

GSES, General Self-Efficacy Scale.

‡Based on chi-square tests with values for each item classified into two groups based on the mean.

†$p$ for results of chi-square tests.

Note: Only those values that were significantly different are included.

reduce unnecessary hospitalization and improve older people's ability to continue to live in the community. In 25% of facilities, care services were changed based on the judgment of nurses. Group homes are characterized by flexible care services and the opinions of nurses might contribute to appropriate service use, which confirms the importance of having nurses at such facilities.

Previous research has also shown that care coordination managed by registered nurses can influence utilization and cost outcomes, and can affect the health and functional ability of frail older people.[22] Active coordination by nurses in group homes is likely to improve the provision of individually tailored services. For example, in facilities with a higher percentage of heart disease, nursing activities such as medication management and care-dependency prevention were more likely to be used. These services are particularly important for these residents, and our results indicated that nurses tailored their activities to individual resident characteristics. Nurses are often the only qualified healthcare professionals on site. Residents in group homes are often vulnerable older people with multiple diseases, so nurses have an important role in coordinating and managing their care both on a daily basis and during an emergency.

This study showed the importance of nursing activity to enable older people with severe health care needs, such as the residents of our study facilities, to continue living at home. We also identified that nursing activities can be disease specific. Multifunctional small group homes are unique service providers offering flexible, individual, personalized care to comprehensively support older people so they might continue to live within the community. Our results showed that nurses provided a wide range of care within these services.

We examined relationships between the working conditions of nurses and their activities and found that nurses were more likely to use the listed nursing activities when they worked full-time. This might be explained by the differences in treatment and working hours between full-time and part-time employees in Japan. Similar findings have been reported in Korea's community-based visiting care systems, where the number of visiting nurses at care facilities and their rehire rates have been associated with residents' quality of life.[23] Our study found that emergency management outside service hours was more likely to be used in facilities with more residents. It might therefore be effective to increase the total number of nurses or the proportion working full-time in such facilities. More experienced nurses used certain activities more actively, such as emergency management outside service hours and end-of-life care. It might therefore be necessary to develop

measures to help nurses continue to work in the same facility, to help them develop further experience.

We found that the nurses in this study who more actively adopted care-dependency prevention measures and provided support for residents with severe medical needs had lower GSES scores, indicating lower self-efficacy, or belief in their abilities. In Japan, aspiring nurses generally pursue a 3 year course of basic nursing education following their high school graduation, and they become certified nurses after passing the national certification examination for nursing students.[24] Passing this examination is the only necessary qualification for nurses wishing to work in multifunctional small group homes. This perhaps might explain, in part at least, low self-efficacy in carrying out these more specialized nursing activities.

At the time of the study, a number of other factors might also have been influential. First, at the time of this study (2013), group home services had only been in existence for 7 years, and the nurses in this study had only a mean experience of 2.9 years working in multifunctional small group homes. Second, guidelines specifying the roles of nurses working in these facilities had not yet been established, and group home nurses might have been performing particular nursing activities without clear guidelines, resulting in poor self-efficacy. Third, the mean number of nurses per group home was only 1.5, which might mean nurses cannot consult with colleagues about nursing judgments. To improve the quality of nursing activities, nurses' self-efficacy should be enhanced through training opportunities, by developing nursing activity guidelines and enabling nurses to discuss and consult with colleagues on care issues.

In PACE programs, the professionals involved cooperate with each other from the primary to acute phases, to provide flexible and personalized support for older people who meet the criteria for nursing home service use and to help them continue to live in the community.[25] PACE is a comprehensive program covering both medical and care services, and enables residents to access appropriate care services even when their pathological condition changes. In contrast, Japanese multifunctional small group homes are social welfare facilities for older people, and nurses are the only medical professionals available, highlighting the importance of their judgments and the heavy burden placed on them during emergencies. It is therefore necessary to strengthen cooperation between staff in group homes and other healthcare professionals and educate care workers to help them provide team-based healthcare support for residents. It is also important to consider measures to reduce the burden on nurses.

We found that 17.1% of facilities in this study provided end-of-life care. This might be important when considering future directions for nursing practice in multifunctional small group homes. The need for education about pain/symptom control has been found to vary between professionals and facilities, even among group homes for older people with dementia.[26] Nurses, however, are present at 60% of deaths.[27] Because many Japanese people wish to die at home,[28] end-of-life care is likely to become more important in group homes, as the number of older residents increases. Nurses are likely to have a central part in end-of-life care and education about pain/symptom control for care workers. Group homes have a role in confirming the wishes of each resident regarding end-of-life care and helping residents to prepare before their health condition worsens.

Although there have been few studies in Japan on the effects of nursing activities delivered to older individuals living at home, there have been several studies conducted elsewhere. Community-based visiting care systems were found to improve quality of life among older people living at home in South Korea,[23] and a study conducted in Hong Kong confirmed that visits by community nurses (mainly for surveillance) enhanced the self-reported health status of older people with chronic cardiovascular disease after they were discharged from hospital.[29] A study in Taiwan found that case management by public health nurses decreased the blood sugar levels of older community residents with diabetes.[30] These findings suggest that it might be possible to improve the health of Japanese group home residents by promoting effective nursing activities.

## Limitations

This study has a number of limitations. For example, it might be difficult to generalize our results because of the low response rate (24.0%). This was partly because we limited study subjects to those working in facilities from which we received completed questionnaires from both administrators and nurses. We could not determine causal relationships between nursing activities and study factors because we used a cross-sectional design in this study.

# CONCLUSION

This is the first study to identify the status of nursing activities provided in multifunctional small group homes of Japan. The results of this study suggest that a number of

nursing activities, including health management, determining the need for medical consultation and managing emergencies, are used with the aim of supporting older people with high health care needs to continue living at home. We also identified nursing activities that were disease specific, providing us with useful suggestions for offering home-based nursing care to older people. In Japan's super-ageing society, these facilities will become increasingly important as service providers to support older people living at home. They might therefore provide a useful model for examining measures to support older people in other countries with rapidly ageing populations. To promote the activities of nurses, who have a central role in this service, it is important to increase the number of nurses in facilities with a large number of residents and to examine their work patterns. Our results also indicate the importance of offering training opportunities to increase nurses' self-efficacy and promote their activities, as well as to develop nursing activity guidelines. Further research is also required: qualitative studies to explore in more detail what determines use of different nursing activities; development of interventions to enhance the self-efficacy of nurses working in group homes; further examination of relationships between nurses' GSES scores and the nursing activities they perform.

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