Original article

Conditions and characteristics of older adults and primary caregivers who use short-stay services: a comparison between long-term and short-term service groups by service type

Chiyo Hagiwara1 and Hisanaga Sasaki2
1Japanese Red Cross Akita College of Nursing, Japan
2Graduate School of Medicine, Akita University, Japan

Abstract

Objective: This study was conducted to examine the conditions and characteristics of older adults who use short-stay services as well as those of their primary caregivers by categorizing them into long-term use and short-term use groups.

Patients and Methods: We conducted logistic regression analyses on the data of 679 short-term residential care (short-stay) users using the $\chi^2$ test, with the type of use as the dependent variable.

Results: The results of the comparison show that users in long-term care were likely to be men, ≥95 years old, live alone, and require care for severe dementia (level three or more). Primary caregivers lived farther away from the user’s neighborhood, felt burdened by and lacked knowledge about providing care, and preferred that the patient continue to receive care in a facility or be hospitalized.

Conclusion: It was suggested that care support specialists in charge of elderly persons requiring severe nursing care who live alone may be adjusting to the long-term use of short stays, which is not usually expected, because they are influenced by the nursing care burden of the primary caregiver who lives far away, the level of knowledge and skills of nursing care, and the primary caregiver’s willingness to continue caring, and because they cannot immediately enter a facility when they are no longer able to live alone.

Key words: short-stay, long-term use, primary caregiver

Introduction

In Japan, the proportion of older adults is increasing along with a rapid decline in the birthrate. Furthermore, the nature of families is changing. As the average household size decreases, the proportion of children—who have traditionally been the main caregivers for older adults—living with their parents is decreasing. Meanwhile, the proportion of children of older adults (aged 65 and over) who are separated or living in distant areas (versus the same municipality) is increasing1). Therefore, older spouses tend to care for their partners, while family members living in distant areas occasionally extend their care and support.

Short-term residential care (hereinafter referred to as "short-stay") is one of the most important respite services in the care of older adults. It is designed to maintain physical and mental functions of older adults and reduce the physical and mental burden on families by providing short-term care and daily functional training, so that older adults can live at home for as much as possible2, 3). The length of stay depends on the patient characteristics such as the level of care required, degree of dementia, and convenience of the family caring for the patient. However, the facility provides only temporary accommodation. Since Japan’s population is aging, the number of short-stay facilities and users is increasing nationwide, and the actual number of days spent in the short-stay per person is also rising3). Of note, the actual
number of days of short-stay use is not covered by insurance if it exceeds 30 days, and it is recommended that the total number of days of short-stay use be limited to approximately half of the valid period of the certification of need for long-term care (usually one or two years)\(^4\). A 2011 survey of care support specialists\(^5\) found that 27.3% respondents used short-stay services for more than one month. Furthermore, a 2014 survey of short-stay facilities found that in 2013, there were 54.9% patients who had “four or more” short-stays with actual days exceeding 30 days\(^6\). These reports suggest that many older adults used the short-stay service for more than the 30 days covered by insurance. However, no study has elucidated the actual situation and characteristics of “long-term users”, including those who are not covered by insurance. Older adults who are no longer able to maintain their lives at home may be forced to stay at a short-stay for a long period of time when they want to enter a facility; however, they cannot do so immediately because the facility is fully booked. In other words, while functioning as respite care, short-stays must also function as institutional care, for which the demand is continuously increasing, and play a complementary role in institutional care.

This study aimed to clarify the situation and characteristics of long-term users and their primary caregivers compare them with those of short-term users. Understanding the backgrounds of long-term users and their primary caregivers can aid in the provision of specific support to these people and optimize the use of short-stay services.

The operational definitions of the terms in this study are as follows: “Type of use” refers to the duration for which (number of days) a short-stay service was used. “Primary caregiver” refers to the person directly responsible for the care of the user.

The “long-term use group” was defined as those individuals using the service continuously for more than one month, including those making the payments at their own expense; while the “short-term use group” was defined as those using the service but also living at home for more than one day in a month.

## Patients and Methods

### Individuals in the survey

The survey was conducted in Akita Prefecture, which had the highest aging rate (32.6%) in 2014, in Japan. Akita Prefecture had the highest number of short-stay facilities per 100,000 population in 2014, and the number of days of use was also on the rise\(^7-8\).

The study collaborators were 400 care support specialists working at 135 in-home care support providers in the Akita Prefecture. A request for research cooperation was sent to in-home care support providers in advance, and questionnaires were mailed to those who agreed to cooperate. Care support specialists were chosen as study collaborators because they are involved in the process of deciding on the use of short-stay care after collecting information and conducting assessments as part of their care management duties. We judged that they would be able to provide detailed and objective answers about the conditions of the users and their primary caregivers.

### Survey method and period

This cross-sectional study was conducted through an anonymous self-administered questionnaire using the postal method. The study period was from January 14, 2014 to March 31, 2014. The study collaborators were asked to respond based on their experience regarding utilization of the short-stay facilities as of January 2014.

### Study items

To prepare the questionnaire for this study, two care support specialists with more than five years of experience were interviewed beforehand about the characteristics of users and primary caregivers for each type of short-stay service. Based on the results of these interviews, we selected the question items and answer choices that we believed would influence the patterns of use of short-stay facilities, referring to the questionnaire used in the “Study on the ideal form of short-term residential care for promoting respite care”\(^9\). After conducting a pre-test, we revised and added questions to complete the questionnaire. The survey items consisted of questions on the short-stay users and their primary caregivers, to be answered by the care support professional (the research collaborator) after answering questions about their personal attributes. The specific survey items were as follows:

1) Attributes of the study collaborators: age, gender, job title, and years of experience.

2) Type of short-stay use: Long-term and short-term use groups.

3) Characteristics of users: Basic attributes of the users including gender, age, household composition, and income level. Care status included the level of care required, level of independence in daily living for older adults with dementia, the requirement of special medical treatment, and the person who managed the user’s money. Special medical treatment includes: intravenous drip management, peritoneal dialysis, colostomy, home oxygen therapy, tracheostomy, cancer pain management, tube feeding, bed sore treatment, urinary catheter procedures, cancer outpatient chemotherapy, insulin injection, suction, and defecation control and treatment.

4) Characteristics of the main caregiver: The main caregiver’s relationship with the older person, age, place of residence, employment status, whether the main caregiver feels the burden of care, and caregiver’s knowledge and skills of care and intention to continue care. Among these, the fol-
lowing were assessed and judged by the responding care support specialist: Whether the primary caregiver felt a sense of burden in caring (“Yes” or “No”); the primary caregiver’s knowledge and skills in caring (“Understands well and applies well”, “Understands and applies somewhat”, “Understands a little but does not apply”, or “Poorly understands”); and the primary caregiver’s intention and desire to continue providing care at home (“wish to continue receiving care at home [maintain status quo]”, “wish to continue receiving care at home [additional support]”, and “wish to enter a facility or be hospitalized”).

The flow of the research requests and data collection is shown in Figure 1. A letter requesting research collaboration was mailed to all in-home care support facilities in Akita Prefecture. Responses included whether they would cooperate with the research. A questionnaire survey was sent to each in-home care support office that provided consent, and each office was asked to answer the survey items and return the questionnaire. In addition, to avoid bias in the number of respondents in the long-term and short-term use groups in the final analysis, the study collaborators were asked to answer the questions for both types of users as far as possible.

**Analysis method**

Among the 400 care support specialists working at 135 in-home care support providers in Akita Prefecture who consented to participate in the study, 291 agreed to be study collaborators (collection rate 72.8%). We obtained data from 818 users and their primary caregivers (as of January 2014) for whom the responding study collaborators were in charge. Among the users, older adults with support needs levels 1 and 2, who were using short-stay services for care prevention, were excluded from the analysis.

A $\chi^2$ test was used to check differences in the characteristics of users and primary caregivers between the short-term and the long-term use groups, and a residual analysis was conducted. Additionally, considering the effect of multicollinearity, we conducted a logistic regression analysis in which the type of use was the dependent variable (short-term use group=0, long-term use group=1), and the characteristics of users (gender, age group, household composition, level of care required, level of independence in daily living for older adults with dementia, and income level) and those of the primary caregivers (relationship, age group, place of residence, employment status, burden of care, knowledge and skills of care, and willingness to continue care) were the independent variables. The odds ratios and 95% confidence intervals for the groups relative to each other were calculated using logistic regression analysis (forced imputation method). The statistical significance level was set at less than 5% and SPSS Statistic Version 22 was used for statistical processing.

**Ethical considerations**

This study was approved by the Ethical Review Committee of the Akita University School of Medicine (Medical Directorate No. 2363, approved on January 6, 2014). A written explanation of the study and an anonymous self-administered questionnaire were distributed to the study collaborators and users at the home care support provider, and consent for study cooperation was obtained. The written explanation clearly stated the purpose, methods, voluntary nature of the study. It also stated that all data would be anonymized by the investigator and managed appropriately and the results of the study would be publicized. Given these considerations, the collaborators and users agreed to participate in this study, and that this choice was made voluntarily and freely.

The study collaborators were asked to complete the
questionnaire only after explaining the results to the users and primary caregivers using the written explanation enclosed within the questionnaire and obtaining their consent for the study. When answering the questionnaire, the user and primary caregiver were asked again to indicate whether they consented to the study.

## Results

Among the 291 care support professionals who participated in the study, 236 (81.1%) were women and 109 (37.5%) were in their 50s. The most common occupation was care worker (230 or 79.0%), and the average number of years of experience as a care support professional was 6.6 years. Of the 818 users’ data obtained in this study, we analyzed data from 679 users (valid response rate: 83.0%), excluding those with missing data—users requiring level 1 or 2 care and those aged 64 years or younger. Additionally, 398 (58.6%) belonged to the short-term, and 281 (41.4%) to the long-term use group, respectively.

### Characteristics of the primary caregiver

Comparing the characteristics of primary caregivers according to the type of use (Table 3) shows that “lineage (son, no primary caregiver, other, $P<0.01$)”, “primary caregiver’s place of residence (farther than neighborhood, $P<0.01$)”, “primary caregiver’s working status (part-time, eight hours or more, $P=0.001$)”, “primary caregiver’s sense of burden of care (yes, $P=0.03$)”, “primary caregiver’s knowledge and skills of caregiving (understands a little but does not apply, poorly understands, $P<0.01$)”, and “primary caregiver’s intention and desire to continue providing care (wish to enter a facility or be hospitalized, $P<0.01$)” were higher in the long-term use group. We also analyzed the association between the type of short-stay use and primary caregiver characteristics using binomial logistic regression analysis, while adjusting for gender and age of the user (Table 4). Type of use was influenced by the primary caregiver’s place of residence, employment status, perceived burden of care, knowledge and skills of care, and intention to continue care. The odds ratios were significantly higher in the long-term use group than those in the short-term use group for the following: “the primary caregiver’s place of residence is farther away than the neighborhood”; “the primary caregiver has a sense of burden in caring for the care receiver”; “the primary caregiver’s knowledge and skills in caring are: understands a little but does not apply, and poorly understands”; and “the willingness of the primary caregiver to continue providing nursing care at the facility and in the hospital”. The odds ratio was significantly low for “the willingness of the primary caregiver to continue providing nursing care at home (with additional support)”.

### Discussion

Since we did not directly survey older adults and primary caregivers, but professionals such as care support specialists throughout the entire Akita Prefecture, our data are based on objective information and have a certain degree of reliability. With regard to the type of use, 58.6% belonged to the short-term, and 41.4% to the long-term use groups, respectively. Bias was eliminated by considering the characteristics of the users and primary caregivers and comparing the two groups according to the type of use. The proportion of long-term users (41.4%) in this study was higher than that of the long-term users in the national survey of care support professionals (27.3%)\(^6\). This may be because the study collaborators were asked to answer questions about both short-term and long-term users. Furthermore, many long-term users were reported, possibly because the survey was conducted during January (winter) in Akita Prefecture, which receives snowfall during this month. A report\(^6\) stated that short-stay facilities are used long-term to cope with the severe living conditions at home during the winter months or to mitigate the risk of a heat stroke in the summer. Therefore, the survey target area and period may have affected the response rate according to the type of use in this study.

Our study focused on the usage patterns of short-stay services and aimed to identify the characteristics of long-term users and primary caregivers.

Long-term users tend to live alone, have low income with reduced inhabitant tax, require a severe level of care, have a low level of independence in their daily life (among older adults with dementia), require special medical treatment, and have their money managed by the primary caregiver. In addition, the intention of the primary caregivers
of long-term users to continue caring for older adults was higher in proportion among those “waiting for admission to a facility” than that among those “maintaining the status quo”. Nakajima, Sawamura, and Yamaoka stated that obtaining stable accommodation is difficult for single older adults who need nursing care but cannot afford to move to a facility; therefore, they resort to using facilities with specialized functions such as short-stay facilities. The results of this study confirm that older adults who require severe nursing care and who live alone but cannot afford nursing care use short-stay facilities as a temporary intermediaries until they are admitted to a facility. In Akita Prefecture, heavy snowfall in winter results in a higher utilization rate of short-stay facilities. Many older adults use short-stay facilities for long periods of time during winter while waiting to be admitted to facilities.

The type of use was influenced neither by age nor the relationship of the user with the primary caregiver, but by the location of the primary caregiver’s residence, the number of hours that the primary caregiver worked, whether the primary caregiver felt a burden of care, whether the primary caregiver had nursing care knowledge and skills, and whether...
er the primary caregiver was willing to continue providing home care. The proportion of older persons in the long-term use group was increased by the caregiver living in an area far from the work site, feeling a burden of care, having poor care knowledge and skills, and wanting the older person to be institutionalized or hospitalized.

Ishizuke and Wake (11) found that older adults requiring severe care who had entered an institution within the past three months were more likely to be older, had a higher percentage of dementia, and had a weaker support system at home as compared to those requiring severe care at home. Older adults also choose to be institutionalized in locations not too distant from their families (12). Significantly, age, line, and physical and psychological distress of caregivers comprise the subjective burden of care, which in turn affects the caregivers’ work and daily life activities (13). Furthermore, a report (14) stated that caregivers with a strong sense of giving burden use short-stay care because eventually they themselves want to enter such an institution. This finding is consistent with the characteristics of the primary caregivers of long-term users in this study. In other words, concerning older adults requiring high level care, a lack of adequate systems and knowledge regarding nursing care on part of the primary caregivers likely affects their use of short-stays and, consequently, they opt more readily for long-term stays.

These results suggest that care support specialists, who receive older adults living alone requiring severe care, are influenced by the care burden of the primary caregivers (who tend to live far away), the degree of care knowledge and skills, and the will to continue care. Additionally, this suggests that adjustments are possibly being made by short-stay providers so that their facilities can be used for the long-term, which is not normally expected.

Limitations and challenges of the study

This was a cross-sectional study conducted in Akita Prefecture, and thus, the data obtained may only reflect the peculiarities of the target area. There is a need to conduct

---

| Category                  | Item                  | OR      | 95% Confidence interval (Lower–Upper) | P  |
|---------------------------|-----------------------|---------|---------------------------------------|----|
| Sex                       | Women                 | 1.00    | [ref]                                 |    |
|                           | Men                   | 1.61    | 1.07 2.43                             | 0.02|
| Age group (years)         | 65–74                 | 1.00    | [ref]                                 |    |
|                           | 75–84                 | 1.20    | 0.57 2.56                             | 0.63|
|                           | 85–94                 | 1.43    | 0.68 3.00                             | 0.34|
|                           | 95≤                   | 2.90    | 1.08 7.79                             | 0.03|
| Household composition     | Cohabitation          | 1.00    | [ref]                                 |    |
|                           | Single residence      | 8.72    | 4.94 15.41                            | <0.001|
| Care level                | Nursing Care 1        | 1.00    | [ref]                                 |    |
|                           | Nursing Care 2        | 1.54    | 0.61 3.88                             | 0.36|
|                           | Nursing Care 3        | 6.33    | 2.69 14.93                            | <0.001|
|                           | Nursing Care 4        | 8.58    | 3.64 20.22                            | <0.001|
|                           | Nursing Care 5        | 10.22   | 4.23 24.71                            | <0.001|
| Dementia independence     | Independent/I         | 1.00    | [ref]                                 |    |
|                           | IIIa/IIIb             | 1.34    | 0.74 2.44                             | 0.33|
|                           | IIIa/IIIb/IV/M        | 1.37    | 0.78 2.4                              | 0.27|
| Income level*             | Stage 1               | 1.00    | [ref]                                 |    |
|                           | Stage 2               | 1.10    | 0.43 2.82                             | 0.85|
|                           | Stage 3               | 1.00    | 0.37 2.74                             | 0.99|
|                           | Stage 4               | 0.82    | 0.32 2.12                             | 0.68|

Morphology of utilization (short-term utilization group = 0, long-term utilization group = 1). For each item, binomial logistic regression analysis (forced input method) was performed. OR: odds ratio. P<0.05, VIF<2.0. Hosmer–Lemeshow test: P>0.05, correct discriminant rate: 68.5%. *1: Care managers were asked to answer the user’s income stage, which was required for the application for approval of burden reduction. Stage 1: All households are recipients of aged welfare pension or public assistance due to non-taxation of residents. Stage 2: All households are exempt from inhabitant tax, and the sum of the total income and the income of public pensions, etc. is 0.8 million yen or less per year. Stage 3: All households are not in the above-mentioned two stages due to non-taxation of residents. Stage 4: Patients other than those under Stages 1–3 (not eligible for burden reduction).
Another limitation of this study is that care support specialists responded to the questionnaire as research collaborators; however, the study did not consider the background of the research collaborators such as the corporation to which they belonged, which may influence the results of the questionnaire. In addition, we compared long-term and other short-term users based on continuous use for one or more months. Therefore, a detailed study that considers the number of days of use as a continuous variable should be conducted in the future. In addition, it is necessary to examine the characteristics of primary caregivers, such as the number of hours and years of care, the presence or absence of a caregiver partner, and the specific factors that lead primary caregivers to opt for long-term care. It is also necessary to improve the validity of the results by directly asking primary caregivers to answer questions in the future, rather than merely analyzing responses based on the assessment of care support specialists, as was done in this study.

**Table 3** Comparison of primary caregiver characteristics by short-stay usage type

| Category                          | Item                                      | Overall n=679 | Form of utilization | p     |
|-----------------------------------|-------------------------------------------|---------------|---------------------|-------|
|                                   |                                           | %             | Short-term use group n=398 (58.6%) | Long-term use group n=281 (41.4%) |       |
|                                   |                                           | %             | %                   | %     |
| Relationship of the primary caregiver | Spouse                                   | 20.9          | 21.6 (0.5)          | 19.9 (–0.5) | <0.001 |
|                                   | Daughter                                  | 27.2          | 28.1 (0.6)          | 26 (–0.6)    |       |
|                                   | Son                                       | 18.6          | 14.3 (–3.4)         | 24.6 (3.4)    |       |
|                                   | Son’s wife                                 | 27.5          | 31.9 (3.0)          | 21.4 (–3.0)    |       |
|                                   | No primary caregiver                      | 0.7           | 0.3 (–1.8)          | 1.4 (1.8)     |       |
|                                   | Others*                                   | 5.0           | 3.8 (–1.8)          | 6.8 (1.8)     |       |
| Primary caregiver age groups (years) | 20–49                                     | 5.0           | 4.8 (–0.3)          | 5.3 (0.3)     | 0.45  |
|                                   | 50–59                                     | 30.2          | 30.4 (0.1)          | 29.9 (–0.1)    |       |
|                                   | 60–69                                     | 37.1          | 37.7 (0.4)          | 36.3 (–0.4)    |       |
|                                   | 70–79                                     | 16.6          | 17.8 (1.0)          | 14.9 (–1.0)    |       |
|                                   | 80≤                                       | 11.0          | 9.3 (–1.7)          | 13.5 (1.7)     |       |
| Location of residence of the primary caregiver | Cohabitation                             | 77.9          | 89.2 (8.4)          | 61.9 (–8.4)    | <0.001 |
|                                   | Same site                                 | 2.2           | 2.3 (0.1)           | 2.1 (–0.1)     |       |
|                                   | Neighborhood                              | 4.0           | 2.3 (–2.7)          | 6.4 (2.7)      |       |
|                                   | Same municipality                         | 7.7           | 3.8 (–4.5)          | 13.2 (4.5)     |       |
|                                   | Other regions                             | 8.2           | 2.5 (–6.5)          | 16.4 (6.5)     |       |
| Employment status of primary caregivers | Unemployed                               | 56.0          | 59 (1.9)            | 51.6 (–1.9)    | 0.001 |
|                                   | Part-time                                 | 13.1          | 12.6 (–0.5)         | 13.9 (0.5)     |       |
|                                   | Retirement from nursing care              | 1.9           | 3 (2.5)             | 0.4 (–2.5)     |       |
|                                   | Work for 8 hours or more                  | 19.9          | 15.3 (–3.5)         | 26.3 (3.5)     |       |
|                                   | Others*                                   | 9.1           | 10.1 (1.0)          | 7.8 (–1.0)     |       |
| Primary caregiver                 | None                                      | 10.2          | 12.3 (2.2)          | 7.1 (–2.2)     | 0.03  |
| Feeling of burden in nursing care | Yes                                       | 89.8          | 87.7 (–2.2)         | 92.9 (2.2)     |       |
| Primary caregiver                 | Understands well and applies well         | 26.5          | 34.2 (5.4)          | 15.7 (–5.4)    | <0.001 |
| Knowledge and technology of nursing care | Understands and applies somewhat         | 41.4          | 45.2 (2.4)          | 35.9 (–2.4)    |       |
|                                   | Understands a little but does not apply   | 22.2          | 17.1 (–3.8)         | 29.5 (3.8)     |       |
|                                   | Poorly understands                        | 9.9           | 3.5 (–6.6)          | 18.9 (6.6)     |       |
| Primary caregiver                 | Desire to continue in-home care (to maintain the current state) | 43.9          | 55.5 (7.3)          | 27.4 (–7.3)    | <0.001 |
| Willingness to continue long-term care | Desire to continue in-home care (additional support) | 14.0          | 21.4 (6.6)          | 3.6 (–6.6)     |       |
|                                   | Preference for admission to the institution or hospitalization | 42.1          | 23.1 (–11.9)        | 69 (11.9)      |       |

χ² test. P<0.05 (two-tailed). In parentheses: adjusted residuals. *4: Niece, relatives, etc. *5: Agriculture, livestock industry, fisheries, self-employed, limited duration, etc.
Table 4  Associations between short-stay usage and main caregiver characteristics

| Category                                           | Item                                      | OR  | 95% Confidence interval (Lower-Upper) | \( P \) |
|----------------------------------------------------|-------------------------------------------|-----|--------------------------------------|--------|
| Relationship of the primary caregiver              | Spouse                                    | 1.00| [ref]                                |        |
|                                                    | Daughter                                   | 1.71| 0.62 4.69                           | 0.30   |
|                                                    | Son                                       | 1.85| 0.65 5.24                           | 0.25   |
|                                                    | Son’s wife                                 | 1.26| 0.46 3.44                           | 0.66   |
|                                                    | No primary caregiver                       | 0.36| 0.03 5.32                           | 0.46   |
|                                                    | Others*                                   | 2.03| 0.65 6.30                           | 0.22   |
| Five main caregiver age groups (years)             | 20–49                                     | 1.00| [ref]                                |        |
|                                                    | 50–59                                     | 0.52| 0.18 1.51                           | 0.23   |
|                                                    | 60–69                                     | 0.72| 0.24 2.16                           | 0.55   |
|                                                    | 70–79                                     | 0.54| 0.16 1.82                           | 0.32   |
|                                                    | 80≤                                       | 1.26| 0.30 5.24                           | 0.75   |
| Location of residence of the primary caregiver     | Cohabitation                              | 1.00| [ref]                                |        |
|                                                    | Same site                                 | 1.24| 0.32 4.83                           | 0.75   |
|                                                    | Neighborhood                              | 4.12| 1.49 11.34                          | <0.001 |
|                                                    | Same municipality                         | 7.76| 3.34 18.03                          | <0.001 |
|                                                    | Other regions                             | 14.08| 5.50 36.03                          | <0.001 |
| Primary caregiver                                  | Unemployed                                | 1.00| [ref]                                |        |
| Employment Status                                  | Part-time                                 | 0.92| 0.48 1.75                           | 0.70   |
|                                                    | Retired from nursing care                 | 0.08| 0.00 1.49                           | 0.09   |
|                                                    | Work for 8 hours or more                  | 1.78| 0.97 3.29                           | 0.06   |
|                                                    | Others*                                   | 0.93| 0.45 1.92                           | 0.84   |
| Knowledge and technology of nursing care           | None                                      | 1.00| [ref]                                |        |
|                                                    | Yes                                       | 2.55| 1.16 5.63                           | 0.02   |
| Primary caregiver                                  | Understood and applied                    | 1.00| [ref]                                |        |
| Willingness to continue long-term care             | Can be understood and applied somewhat    | 2.07| 1.21 3.54                           | 0.01   |
|                                                    | Slightly understood but not applied       | 3.31| 1.80 6.09                           | <0.001 |
|                                                    | Poorly understood                         | 9.47| 4.00 22.43                          | <0.001 |
| Primary caregiver                                  | Desire to continue in-home care (to maintain the current state) | 1.00| [ref]                                |        |
| Willingness to continue long-term care             | Desire to continue in-home care (additional support) | 0.22| 0.10 0.49                           | <0.001 |
|                                                    | Preference for admission to the institution or hospitalization | 4.70| 3.10 7.13                           | <0.001 |

Morphology of utilization (short-term utilization group=0, long-term utilization group=1). Binomial logistic regression analysis (forced input method) adjusted for user sex and age was performed for each item. OR: odds ratio. \( P \leq 0.05 \), VIF<2.0. Hosmer–Lemeshow test: \( P > 0.05 \), correct discriminant rate: 58.6%. *4: Niece, relatives, etc. *5: Agriculture, livestock industry, fisheries, self-employed, limited duration, etc.

**Conclusion**

This study examined the conditions and characteristics of short-stay users and their primary caregivers according to the type of use. Long-term users tend to live alone, require a high level of care, and have severe dementia. Primary caregivers of long-term users tend to live far from the same site, work more than eight hours a day, feel the burden of care, lack knowledge and skills regarding care, and wish for their patients to continue care at a facility or hospital.

**Conflict of interest:** The authors have no conflicts of interest to disclose.

**Acknowledgment**

The authors would like to thank all care support specialists, short-stay users, and their families for their cooperation in this study.
References

1. Statistics and Information Department, Minister’s Secretariat, Ministry of Health, Labour and Welfare: Household situation in graphs in 2014, December 18, 2014; p 5 (in Japanese).
2. Article 8, Paragraph 9 of the Long-Term Care Insurance Law (in Japanese).
3. Ministry of Health, Labour and Welfare, Social Security Council, Subcommittee on Long-Term Care Benefits (141st Meeting): Short-term residential care and short-term residential care (Reference Material 2), June 21, 2017; https://www.mhlw.go.jp/file/05-Shingikai-12601000-Seisakoutoukatsukan-Sanjikan-shitsu_Shakaihosoutantou/0000168704.pdf (2021.12.20) (in Japanese).
4. Standards for the Personnel and Operation of Designated In-Home Care Support Services, Ordinance of the Ministry of Health and Welfare No. 38 of March 31, 1999 (in Japanese).
5. Japan Association of Nursing Care Specialists: Report on the research on the ideal form of short-term residential care that contributes to the promotion of respite care, March 2012; p 34 (in Japanese).
6. Japan Association of Nursing Care Specialists: Report of a research study on the ideal form of respite care in short-term residential care and the provision of services that contribute to the continuation of life at home, March 2015; p 37 (in Japanese).
7. e-stat: Survey of facilities and establishment of long-term care services, browse table of establishments for in-home services, number of establishments for in-home services, prefectures-designated cities and core cities (republished), types of in-home services by actual number of persons using short-term residential care, http://www.e-stat.go.jp/SG1/estat/GL08020101.do?_toGL08020101_&tstatCode=000001029805&requestSender=dsearch(2021.12.16) (in Japanese).
8. Government Statistics e-Stat: Survey of Long-Term Care Service Facilities and Establishments, Table of In-Home Service Establishments, Actual Number of Users per Establishment; Total Number of Users per Establishment; Users Number of times (days) of use per person, Prefectures; Designated Cities and Core Cities (Re-posted); By type of in-home service, FY2002, FY2007, FY2011, http://www.e-stat.go.jp/SG1/estat/GL08020101.do?_toGL08020101_&tstatCode=000001029805&requestSender=dsearch(2021.12.16) (in Japanese).
9. Nakajima T, Sawamura K, Yamaoka J. Actual conditions and issues of continuous support at home by care managers for elderly people who need single care. Social Security Research 2016; 1: 183–191 (in Japanese).
10. Hagiwara C, Sasaki H, Natsuhara K. Actual conditions of facility characteristics and factors related to long-term use of short-term residential care (short-stay) in Akita Prefecture. Journal of the Japanese Red Cross Akita College of Nursing and the Japanese Red Cross Akita Junior College 2016; 1–10 (in Japanese).
11. Ishizuke, T and Wake, J. Factors associated with home care service use among severely disabled elderly: a comparison between long-term community dwellers and nursing home residents. Japanese Journal of Social Welfare, 2010; 57–69 (in Japanese).
12. Kiriyama Y. “Normalization of residence”: through the residence problem of the elderly and the nursing care insurance system. Bulletin of Tokai Women’s Junior College 2003; 29: 45–53 (in Japanese).
13. Oyama N, Suzuki M, Yamada K. An analysis of factors related to subjective care burden of family caregivers. Journal of Japan Academy of Gerontological Nursing 2001; 6: 58–66 (in Japanese).
14. Tatematsu M. Short-stay policy from the perspective of family caregivers’ sense of care burden: a study on the ideal nursing home supporting community residence of elderly people who need care. Journal of the Japan Society of Home Economics 2013; 64: 577–590 (in Japanese).