# 学位論文の要旨

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学 位 論 文 名 Factors Associated with Short-term Institutionalized Nursing
Care Among First-time Users of Home-visit Nursing Stations
in a Rural Area of Japan

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#### 論 文 内 容 の 要 旨

# **INTRODUCTION**

Japan is one of the first countries to become an aging society in a world where aging is accelerating. In April 2000, the Japanese government established a long-term care insurance system, which guarantees health care and social services for the elderly. In recent years, many elderly individuals in Japan strongly wish to continue living at home if possible. Therefore, a long-term care insurance system is the most important policy in an aging society. Especially, home-visit nurses are expected to function as key members of health care teams. These nurses not only assist those suffering from aging, disability, chronic diseases, terminal diseases and other conditions, but also coordinate medical practice, health care and social resources.

Meanwhile, the burden of caregivers is increasing despite their use of multifaceted long-term care insurance services. One service to reduce the caregiving burden is short-term institutionalized nursing care (hereinafter "short stay"). Short stay is a service where those in need of long-term care can stay at a facility for a short period receiving care.

There are few studies that have been reported the relationships between short stay users and the burden of caregivers. Our study aimed to clarify the characteristics and the related factors on using short stays among first-time users of home-visit nursing stations in Japan.

#### **MATERIALS AND METHODS**

Among 298 first-time users of home-visit nursing stations, subjects were 103 individuals in A city, located in a rural prefecture in Japan. The survey was conducted between 2009 and

2014 and comprised items on characteristics, including whether or not they used short stay services, and the Japanese version of the Zarit Burden Interview (J-ZBI). J-ZBI consists of Personal Strain (PS) and Role Strain (RS). Responses were collected by home-visit nurses. The characteristics of home-visit nursing station users were as follows: use of short stays, age, sex, period of receiving care, care level, main disease, relationship to the primary caregiver, employment status of the caregiver, number of uses of other long-term care insurance services, and presence or absence of a sub-caregiver.

For analysis, subjects were divided into two groups depending on whether or not they used short stay services, and were defined those who use short stay services as "users" and those who not as "non-users". The Student's t-tests were used to test for consecutive variables, such as age and period of receiving care, while the chi-square tests were used to test for categorized variables such as sex, presence or absence of a sub-caregiver and employment status of the caregiver. The Cochran-Mantel Haenszel tests were used for care level, main disease, relationship to the caregiver and number of uses of other services to adjust for age. The mean scores for total J-ZBI, PS and RS were calculated and examined by analysis of variance adjusted for age. In addition, the distributions of subjects for total J-ZBI, PS and RS scores were examined using the Cochran-Mantel Haenszel tests adjusted for age. Multiple logistic regression analysis were also used to assess the contribution of using of short stays in each of the total J-ZBI, PS and RS scores, using the independent variables of age, presence or absence of a sub-caregiver, and employment status of the caregiver. All probability values were two-tailed and all confidence intervals were estimated at the 95% level. The study protocol was approved by the Ethics Committee of Shimane University and written informed consent was obtained from all subjects.

## **RESULTS AND DISCUSSION**

Eligible responses were obtained from 103 subjects in this study. Of these, 43 were short stay users and 60 were non-users.

The short stay users were statistically younger than non-users (mean age:  $64.2 \pm 10.1$  years for users and  $69.3 \pm 10.6$  years for non-users) (P=0.017). No significant differences were seen in period of receiving care, care level or disease. Primary caregivers have more works on 25 subjects in the user group, compared with 21 subjects in the non-user group (P=0.019). A sub-caregiver assisting the primary caregiver was present for 25 subjects in the user group and 47 subjects in the non-user group (P=0.027). According to the total J-ZBI score, the care burdens of caregivers of short stay users were statistically higher than those of non-users (mean score:  $37.7 \pm 15.7$  points in the user group vs.  $27.8 \pm 15.5$  points in the non-user group) (P<0.01). Both

the PS and the RS scores indicated the care burdens of caregivers were also higher in short stay users than in non-users with statistical significance (both P<0.01; PS score:  $20.8 \pm 8.7$  points in the user group vs.  $15.7 \pm 8.6$  points in the non-user group; RS score:  $9.7 \pm 4.5$  points in the user group vs.  $6.9 \pm 4.7$  points in the non-user group). Using logistic regression analysis, short stay users were positively associated with the PS, RS and total scores of the J-ZBI, and were negatively associated with both age and having a sub-caregiver in the PS score of the J-ZBI.

Our results suggest that the burden of caregivers of short stay users is higher than that of caregivers of non-users based on the results of the J-ZBI among the first-time users of home-visit nursing stations. We also found that the age of short stay users tended to be younger than that of non-users. The lack of a sub-caregiver was positively related with using short stay.

Most of elderlies takes multiple services on long-term care insurance in each. Our study revealed characteristics particular to users of multiple services. Therefore, it is important to examine the relationship among other several services in the long-term care insurance as well as the combination of home-visit nursing and short stays.

### **CONCLUSION**

To the best of our knowledge, this study is the first to examine the characteristics and the related factors on using short stays in first-time users of home-visit nursing stations. This study provided suggestions, that primary caregivers who have no work should be helped by economic support system for long-term care in Japan. Adequate combinations in various long-term care services are required to achieve stable and peaceful home lives for both care recipients and their caregivers in integrated community care system. Among long-term care insurance system services, short stays play an important role due to decrease care burden for primary caregivers.

Long term care for elderlies in Japan is moving from the hospital to the home and home-based support. We need to provide the combinations among long term care services according to the situation both users and caregivers, such as caregivers who have a work or users without a sub-caregiver. To achieve this, home-visit nurses and care managers need to pay more attention on the characteristics in both users and caregivers, and the care burden on the primary caregivers.