Types of Human Gathering in Small-scale Elderly Care Facility

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Abstract
Individualized care in small-scale nursing homes is becoming more prevalent in Japan in order to meet the personal needs and respect the dignity of the elderly. Since the philosophy of care and the subsequent activities of nursing home staff are changing drastically with the increase in individualized care, creating a comfortable care environment and providing a well-designed space must be taken into consideration. This paper attempts to clarify the actual conditions of a care environment in which individualized care is provided by analyzing the activities of both the residents and care staff. Data were collected from behavioral observations and examination of patterns in the use of space at an elderly care facility that has both Group Living and a Day Service.

The results of this paper are as follows:
1) Several types of support, such as Direct care, Conversation care, Organizing groups and Beholding occur at the same time with a varying number of participants, and change depending on the situation.
2) While Direct care and Beholding are the main types of support for Group Living residents, for those using the Day Service, Conversation care is the main type.
3) The care environment should comprise connected spaces, such as a kitchen and dining room, rather than individual or constricted spaces.

Keywords: small-scale elderly care facilities; care environment; human gathering; day service; group living

1. Introduction
1.1 Background and purpose of the study
Concurrent with the rapid increase in the aging population, elderly care facilities have been changing drastically in Japan. Many types of elderly care are now available, including Visiting Care, Day Service, Short Stay, and Group Living, which offer a more suitable, supportive environment for handicapped elderly and those with dementia.

Until recently, in Japan, the major form of care for the elderly was the traditional "large-scale" nursing home. In this type of environment, the residents are cared for collectively and the treatments are also simultaneous; that is, residents are treated in a manner that ignores individual needs and personal dignity.

Currently, there is a movement among these facilities to provide individualized care in "small-scale" nursing homes in order to respect the wishes of the residents.

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are shared at this facility, the Dining room (22.9 m²), the Kitchen (11.3 m²) and the Japanese-style tatami room (15.8 m²; this room is often used for napping). These three areas are connected and almost become a single space by opening the door between the Kitchen and Japanese-style room. The second floor is for the Group Living residents. Each bedroom (11.7 m²) is connected to a common area, such as a corridor or a living room (13.2 m²). Both the corridor and the living room function as a path between the rooms and as a common space. Day Service programs are offered Monday through Saturday, excluding Wednesday. In this paper, days on which Day Service programs are offered are referred to as DS days, and as ND day when Day Service programs are not offered.

An outline of the surveyed facility is shown in Fig.1. The changing number of Day Service users, residents and staff during a typical DS day is shown in Fig.2. Activities of daily living (ADL) levels of Group Living (GL) residents range from Level J to C, while those of Day Service (DS) users are mainly Level A. Details concerning nursing home users' attributes are listed in Fig.3.

1.3 Methodology
The methodology and process for the development of this study can be described in three stages as follows:

1) Pre-observation participation
The authors participated in a pre-observation in preparation for the observational study. In these small-scale nursing homes, it was thought best not to conduct observations as "a newcomer". Specifically, it is important for elderly with dementia to live amongst familiar faces. Thus, new environments can often seriously upset them and even worsen the symptoms of dementia. Therefore, an observer first worked as a volunteer in the home for four days and became familiar with the residents and the nursing care staff.

2) Observational study
The observation was conducted during October 2007 (7th to 25th). An observer recorded the actual movements and behaviors of all the residents and staff in each room of the home, focusing on the formation of groups among the elderly and the staff and on their use of space. Activities were mapped from 9:00 to 17:00 every hour.

3) Questionnaire survey and interview
An interview was undertaken with the head staff of both the Day Service and Group Living to obtain information about staffing, the characteristics of the residents, and problems associated with using the home.

2. Theoretical Consideration
To clarify the actual conditions of the care environment in this facility, analyses were conducted based on the behaviors and activities of residents and staff associated with gathering (human gathering) and their use of the various areas in the facility (use of space).
2.1 Human gathering with care staff

During the observation, the authors found that several types of support are provided within a single space; an example of which is illustrated in Fig.4. One staff member is leading an elderly resident who requires assistance walking to a seat (A). Another staff member is chatting with a Day Service user (B). Other staff members are having lunch with a user (B') or singing with several people in a group (C). An additional staff member is keeping a close eye on (Beholding) the other residents who are spending their time freely, without support (D). The authors therefore classified this situation into four types, focusing on how the staff interacts with the residents and what kind of care is being provided.

2.2 Four types of human gathering with care staff

Classifying the types of human gathering involves understanding how care is offered and treatments are administered in a small-scale nursing home. The four types of human gathering with nursing care staff are shown in Fig.5., and the details of each type are as follows:

A) Direct care
This type of care is often provided to residents whose abilities to perform ADL are poor. Direct assistance for basic daily-life activities, such as bathing, eating, using the bathroom and walking, are categorized in this type.

B) Conversation care
Members of the nursing care staff often have conversations with the Day Service users and residents, and the contents of their conversations vary, and include topics such as the weather, the health of the user or resident, and recent events. The users or residents respond and then the staff member either replies or presents a new topic in order to continue the conversation. The case in which the user or resident does not make any responses and the nursing care staff does all the speaking is also categorized as Conversation care.

C) Organizing a group
The most notable feature of this type of care is that it comprises a group of several users, residents and staff members. In this case, they all do something together (e.g., singing, drawing pictures). Although conversations occur while in a group, this type of care differs from Conversation care in that some activities bring the users, residents and staff members together.

D) Beholding
In this type of care, staff members respect the intentions of the elderly and allow them to enjoy their time freely. More specifically, the staff members have limited interaction with the users or residents (except when required), and only behold the elderly from a short distance. Even in the case where the elderly are out of the direct line of sight, attending staff members remain attentive to the movements and noises of the users and residents. Herein, this is also considered part of Beholding.

2.3 Development of human gathering time-series

The authors analyzed the data from an observational survey conducted over the course of a single day, focusing on what type of human gathering took place. The situation at 09:00 on October 7th is presented in Fig.6, and shows seven elderly people (Group Living residents) on the ground floor. In the dining room, one resident (Ms. Y) is having breakfast with a staff member nearby in the kitchen; this is categorized as B-type care. Other residents (Ms. T and Ms. A) are also sitting nearby. Another resident (Ms. N) is...
having her vital signs checked by a staff member; this is categorized as type A. The other resident (Ms. U) is talking with a staff member who is in the kitchen preparing for lunch; this is categorized as B-type care. While talking with Ms. U, the staff member in the kitchen keeps a close eye on two residents (Ms. T and Ms. A) in the dining room; this can be categorized as D-type care. One resident (Ms. K) is about to go upstairs. In the Japanese-style room, one staff member is folding laundry while beholding one resident (Ms. M) who is taking a rest; this is categorized as type D.

The above situation was arranged into a single table shown in Fig.7.

The development of human gathering over the course of a single day, recorded at hourly intervals, is shown in Fig.8.

From this figure, it can be said that:

1. Human gathering with the nursing care staff occurs at the same time, varying in both the number of participants and the type or care being offered.
2. Human gathering with the nursing care staff changes gradually depending on the situation.
3. Beholding from the kitchen to the dining room occurs often.

From the perspective of the elderly care environment, these results indicate that it is beneficial to locate the kitchen next to the dining room where most of the users and residents spend a great deal of their time.

2.4 Interpersonal distance

In order to understand the characteristics associated with each type of human gathering, the authors compiled the data from all of the one-day observational surveys and measured the interpersonal distance between users, residents and staff members (Fig.9.). By analyzing these four types of human gathering in terms of interpersonal distance, it was determined that each type of human gathering has an appropriate
interpersonal distance. Direct care (type A) for daily-life activities, is often done within 1 m (mean: 0.58 m).

Conversation care (type B) is often done at about 1 m (mean: 1.02 m). Organizing a group (type C) with the nursing care staff and doing something together is often done between 2 and 3 m (mean: 2.63 m). Beholding (type D), keeping a close eye on the elderly, is often done between 3 and 5 m (mean: 3.92 m).

Moreover, precise analysis of B-type care, focusing on the difference between Day Service users and Group Living residents, reveals that the interpersonal distance between a Day Service user and the staff member is much shorter than that of Group Living residents, (mean for Day Service user: 0.88 m; Group Living resident: 1.17 m). These results suggest that staff members provide Conversation care in closer proximity to Day Service users than Group Living residents. Possible reasons for this are as follows:

1. Day Service users are, so to speak, guests; they visit this nursing home several times a week and spend their time talking or participating in activities with their friends and the nursing care staff.
2. In contrast, for the Group Living residents, the nursing home is their own house, and talking with the nursing care staff is one of the daily-life activities. This may result in staff members tending to talk with Group Living residents from greater distances. From this perspective, Day Service users are observed being treated with hospitality, as a guest, and being provided with more personal care.

Identical results were found in the analysis presented in Fig.10.; showing the frequency of human gathering. The upper bar represents the ND day and the lower bar represents the DS day. A-type and D-type care often occur on ND days, and B-type care is the majority of care provided on DS days.

Sociofugal gathering tends to keep people apart and suppress communication while Sociopetal gathering does just the opposite; it brings people together and stimulates interaction. During the current observations, it was found that most of the Sociopetal gathering was done on the 1st floor dining and 2nd floor living rooms. These two places promote relationships among the elderly. The authors subsequently classified this Sociopetal gathering into three types, focusing on the relationship level:

1. Admit to having some kinds of relationships within a group.
2. Admit to having some kinds of relationships within a part of a group.
3. The group type is classified as Sociopetal gathering, although there is no relationship within the group.

The occurrences of Sociopetal gathering between the 1st floor dining and 2nd floor living rooms are shown in Fig.11. It can be said that the 2nd floor living room has a greater tendency to promote relationships than the 1st floor dining room. The possible reasons for this difference are as follows:

1. The 2nd floor living room (13.2 m²) is smaller than the 1st floor dining room (22.9 m²).
2. Chairs and tables surround a TV set in the 2nd floor living room.

The room size and arrangement of furniture in a room discourages or encourages conversation and interaction. The authors also consider that a centralized shape tends to make a home-like environment and encourages interaction similar to that observed in the 2nd floor living room in this facility.

Fig.11. Human Gathering Without Care Staff

2.6 Characteristics of the elderly

As shown in the previous section, the formation of groups between the elderly and nursing care staff are the major types of human gathering observed at the facility. However, in these small-scale nursing homes, we also find groups of elderly that do not include any staff members. Therefore, in this section the authors refer to this type of group as "human gathering without care staff" and analyze this situation from the aspect of the sociofugal and sociopetal axes, which are the two major systems for understanding human interaction.
of activities are shown, such as residents who spend most of their time in their rooms except for lunchtime, and others that spend the entire morning in the 1st floor and the rest of the afternoon staying in their bedroom. The figure also shows other residents that use several areas during the course of a single day according to the situation at hand. Based on these results, the authors found patterns in activities and the use of space. The typical characteristics observed are outlined below:

1) "Use several spaces with Direct care"
This type of elderly individual never uses an area without being provided Direct care. In this case, direct assistance for basic daily-life activities are provided by the nursing care staff and the elderly individual always remains in a place where the staff can keep a close eye on them.

2) "Use various spaces with Beholding"
This type of elderly individual willfully selects and remains in various spaces. These individuals are able to walk on their own, and the nursing care staff beholds them from a short distance.

3) "Stay in bedroom: Independence"
This type of elderly individual does not require any supportive care except for bathing, and they remain in their room for the better part of the day.

In order to show the support and use of space characteristics for each type as mentioned above, the authors compiled the data from all of the one-day observation surveys, and subsequently modeled examples focusing on what type of care is provided and how spaces are used. An example model for each is shown in Fig.13.

3. Summary
The results of this study are summarized as follows:

1) Several types of support, such as Direct care, Conversation care, Organizing group and Beholding with a varying number of participants, and the Human gathering with care staff gradually changes depending on the situation.

2) The four types of human gathering observed in the present study exhibit unique interpersonal distances, and in the studied home, Day Service users are treated as a guest and are provided with Conversation care more often than the Group Living residents.

3) Direct care and Beholding are the main types of support provided to Group Living residents, and Conversation care is mainly provided to those using the Day Service.

4) The room size and arrangement of furniture in
a room encourages or discourages conversation and interaction.

5) The authors clarified each user's activities and the use of space, and found typical characteristics, such as "Use several spaces with Direct care" and "Use various spaces with Beholding".

4. Prospects

In this paper, the authors clarify the actual conditions of an elderly care environment providing individualized care and from the perspective of human gathering, describe the conditions of the care environment and show practical issues associated with the elderly care facility.

When designing a support facility for the elderly, such as a small-scale nursing home, it is essential to not only provide flexible spaces to respect the intentions of the elderly, but also to be able to provide support for their individual needs. More specifically, it is beneficial for the elderly that the care environment comprise connected spaces rather than individual or constricted spaces.

This study presents actual conditions of a care environment providing individualized care by defining four types of human gathering with the nursing care staff. The results of this study can serve as guidelines for the design of small-scale nursing homes.

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References


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22) Details regarding ADL levels are as follows:

Level I: The individual is independent indoors but requires assistance when outdoors.
Level II: The individual needs some assistance indoors and mainly stays in bed during the daytime but can sit without assistance.
Level III: The individual remains in bed almost all day.
Level IV: The individual exhibits serious symptoms that make daily-life difficult.

23) Details regarding Dementia levels are as follows:

Level I: The individual has some dementia, but can go outdoors without assistance.
Level II: The individual has some dementia, but requires assistance when outdoors.
Level III: The individual exhibits symptoms that make daily-life difficult.
Level IV: The individual exhibits serious symptoms that make daily-life difficult and requires constant beholding.