
Seigo Minami¹, Ryuji Kobayashi²

¹ Faculty of Rehabilitation, Osaka Kawasaki Rehabilitation University
² Department of Occupational Therapy, Tokyo Metropolitan University

Abstract: We aimed to clarify intervention processes for facilitating patients’ living activities by understanding the practical structure of home-based occupational therapy (OT). Study participants were occupational therapists with at least three years of home-based OT experience. Data analysis was based on the grounded theory. For categorisation, MAXQDA 10 was used to conduct continuous comparative analysis. Analysis resulted in the following categories: 1,572 text segments, 195 labels, 40 small categories, 15 medium categories and 6 large categories. The large categories were (a) identifying unique living activities, (b) analysing and predicting living activities, (c) employing practices to confront living activities, (d) creating an environment that fosters living activities, (e) implementing independent living activities and (f) co-operating to realise living activities. Occupational therapists used patients’ living spaces to support them in terms of independently performing living activities, accumulating living activity experience in familiar homes and communities.

Keywords: home-based occupational therapy, life performance, quality of life


Introduction

Comprehensive community care systems are being promoted in Japan to help elderly people live in familiar communities for as long as possible [1]. The main objectives of comprehensive community care of the elderly are to expand support for elderly people from a multi-disciplinary, professional perspective that ensures the continuity of elderly people’s unique lives through improvements to social infrastructure. Occupational therapists can contribute to sustainable community life of the elderly by providing well-balanced approaches to activities, opportunities to participate in the environment, and supporting mental and physical functions [2].

In light of these circumstances, the Japanese Association of Occupational Therapists has proposed the Management Tool for Daily Life Performance (MTDLP) to the public as one approach that occupational therapists can use in comprehensive community care [3]. Activities of daily living, work, hobbies and leisure activities are designed to maintain self-care [4, 5]. The MTDLP is a process tool for occupational therapists that is intended to improve living activities of elderly individuals living in the community.

Home-based occupational therapy (OT) contributes to improving living activities at home and specifically provides services that are congruent with a patient’s lifestyle. The reported outcomes of home-based OT are improvement of patients’ practical functions and reduction of carer burden [6–8], as well as increased social participation through interventions congruent with patients’ interests and concerns [9, 10].

Home-based OT is therefore considered to be effec-
tive at improving living activities [9]. Accordingly, our objective in this study was to analyse the intervention processes employed to enable patients in fulfilling living activities by gaining an understanding of the practical structure of home-based OT. We referred reference to the theoretical framework of MTDLP to identify the purpose of the intervention process. We expect our findings to help standardise the process of facilitating patients’ daily living activities and further expand the scope of patient activities and participation.

Materials and Methods

Study Design

We used a qualitative design for this study. We conducted interviews with experienced occupational therapists and created a structural diagram—aiming to present home-based OT as a storyline—that depicts the co-operative building of daily living activity goals as related to home-based OT.

Participant and Procedure Selection

This study’s participants were experienced occupational therapists involved in home-based OT. They were selected by requesting the names of occupational therapists from the Japan Association of Home-Visit Rehabilitation (in Japanese), and snowball sampling was employed to select participants whenever a referral was obtained from a director of OT. The participants were occupational therapists with at least eight years’ experience after obtaining their therapist’s licences and at least three years’ experience in home-based OT. The sample size of a qualitative study varies depending on whether or not theoretical saturation has been reached; thus, we did not identify the sample size needed in this study [11, 12].

We created an interview survey and conducted semi-structured interviews. To create a supportive environment for the interviews, we informed the participants of the study objectives and ensured them that their stories would be confidential. To protect privacy, we clarified in writing that the participants’ rights would be respected. Translation from Japanese to English was performed by experts in the translation of rehabilitation information after generation of categories. Subsequently, reverse translation from English to Japanese was performed using translation software (MED-Trancer V12), and transparency was confirmed. Backward translation was repeated with healthcare professionals until the correct meaning was obtained. The interviews involved listening carefully to the participants’ answers to a list of open-ended questions (Table 1), which was distributed in advance, asking participants to freely answer. The items in the interview list included (1) the participants’ unique viewpoints on home-based rehabilitation, (2) outcomes of home-based OT, (3) environmental adjustments and (4) open-ended questions. With the participants’ consent, interview data were recorded using a digital voice recorder. The recorded interview content was transcribed verbatim.

Table 1. Questions Included in the Semi-structured Interview.

| 1 | Practice of home-based rehabilitation and unique viewpoint of home-based OT
| □ Please tell me the specific content that directly interfered with the target person during the home-based OT. |
| □ Please tell me anything specific to OT. |
| □ Please tell us a unique perspective of home-based OT. |
| □ Any other practices of home-based OT |
| 2 | Intervention of OT with respect to the subjects
| □ Please tell me about actual environmental adjustment and introduction of welfare equipment. |
| □ Please tell me specifically whether there is a point of view unique to home-based OT. |
| □ Please tell me the role of home-based OT. |
| □ Any other approach of home-based OT |

Data analysis was conducted using the Grounded Theory Approach [13]. In Japan, there are few empirical data from previous studies on the subject of this study and there is no hypothesis about it. Therefore, to clarify the occupation structure, we first adopted a qualitative research design. Labels were generated using the Steps for Coding and Theorization (SCAT) [14], and coding and continuous comparative analysis were conducted sequentially, in conjunction with experienced instructors in the field of health sciences, until opinions matched. The labels obtained from SCAT were categorised according to similarities; however, coding in this study differed from that done in broad integration, such as in SCAT, in that labels were assigned to each line. Labels were named with gerunds, as recommended by Charmaz (2014) [15]. The study used the qualitative data analysis software MAXQDA 10 (VERBI, GmbH, Berlin, Germany). The raw data were referred to, and the labels were revised many times during their generation.

The Schnabel method was adopted for measuring theoretical saturation [11]. This method can show the capture rate from a rational perspective. Toyoda et al. used the data capture rate as an indicator of the degree of saturation [12]. To determine if theoretical sampling had been achieved, the capture rate was calculated and evaluated at the point when almost no new findings were seen. Schnabel method evaluations were determined on the basis of the relationship between the overall labels obtained from SCAT and the labels obtained from the last case. Category reliability was examined by calculating the concordance rate, using Scott’s pi [16],...
which can verify the concordance rate corrected for concordance arising from coincidence. A concordance rate of 70% was deemed to ensure reliability in accordance with a previous study [17].

Once the reliability of categorisation was confirmed, we created a structural diagram depicting the relationship between categories. The structural diagram was then used to create a storyline for the support process of home-based OT.

**Results**

*Theoretical saturation of data and establishment of reliability*

Two researchers were involved in data analysis. First, we individually created the code and then compared the codes to reach a consensus. The researchers conducted the analysis with university faculty members who have conducted doctoral programs in the field of health care. In the interviews, from the seventh participant onwards, the interview content appeared to repeat the same narrative. We therefore examined theoretical saturation using the Schnabel method. We verified reliability by confirming the capture rate with the Schnabel method up to the ninth participant, who had 30 labels, 28 of which were the same as the overall labels and two of which qualified as newly obtained labels, yielding a capture rate of 94.5%. Since the capture rate exceeded 90%, theoretical saturation was deemed to be achieved [16]. The nine participants comprised six men and three women with a mean age of 35 (SD, ±6.8) years, mean OT experience of 14 (SD, ±4.9) years. The concordance rate according to Scott’s pi was at least 78.3% in all three parties, which was deemed to indicate ensured reliability [18].

**Generation of categories for the process of realising home-based OT**

Categories were generated by conducting a continuous comparative analysis until opinions matched those of experienced instructors in the field of health sciences. The categories were coded by the researchers who compared codes. Analysis generated the following categories: 1,572 text segments, 195 labels, 40 small categories, 15 medium categories and six large categories. The large categories consisted of (a) identifying unique living activities, (b) analysing and predicting living activities, (c) employing practices to confront living activities, (d) creating an environment that fosters living activities, (e) implementing independent living activities and (f) co-operating to realise living activities. When the large categories were classified by type for the realisation of living activities, they formed the (A) co-operative building of living activity goals (a, b); (B) practical building of living activities (c, d); and (C) autonomous building of living activities (e, f) (Fig. 1).

**Storylines of supportive techniques in co-operative building of living activity goals**

In the process of realising living activities in this study, the category for the co-operative building of living activity goals included (a) identifying unique daily living activities and (b) analysing and predicting daily living activities (Fig. 2). These practices were supportive techniques forming the foundation for the practical building of daily living activities. The storylines of each supportive technique are indicated as follows by […] for large categories, (…) for middle categories, “…”

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Subject No. 1</th>
<th>Subject No. 2</th>
<th>Subject No. 3</th>
<th>Subject No. 4</th>
<th>Subject No. 5</th>
<th>Subject No. 6</th>
<th>Subject No. 7</th>
<th>Subject No. 8</th>
<th>Subject No. 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>M</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Age (y)</td>
<td>40s</td>
<td>30s</td>
<td>30s</td>
<td>30s</td>
<td>30s</td>
<td>30s</td>
<td>40s</td>
<td>40s</td>
<td>50s</td>
</tr>
<tr>
<td>Mean OT experience (y)</td>
<td>19</td>
<td>15</td>
<td>12</td>
<td>8</td>
<td>16</td>
<td>11</td>
<td>16</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>Mean home-based OT experience (y)</td>
<td>16</td>
<td>14</td>
<td>9</td>
<td>7</td>
<td>4</td>
<td>11</td>
<td>6</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td>Mean number of weekly home visits</td>
<td>20</td>
<td>20</td>
<td>8</td>
<td>22</td>
<td>24</td>
<td>2</td>
<td>23</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>Interview time (min)</td>
<td>48</td>
<td>12</td>
<td>50</td>
<td>74</td>
<td>60</td>
<td>79</td>
<td>91</td>
<td>84</td>
<td>60</td>
</tr>
</tbody>
</table>

M: male; F: female; OT: occupational therapy
for small categories and ‘...’ for raw data.

**a) Storyline for identifying unique living activities**

[Identifying unique living activities] involved (1) providing support to realise unique living activities to encourage living activities in which patients are interested and to ensure that interest can be maintained. Occupational therapists also gained an understanding of life roles and habits followed by (2) intervening in a way that respects these unique habits and roles. Furthermore, occupational therapists gained an understanding of the living situations of patients and encouraged patients to embrace the feeling of living in that situation so as to (3) encourage a unique way of living.

In (1) providing support to realise unique living activities, occupational therapists supported patients in actualising their own living activities by “(i) supporting living activities in which patients are interested” while “(ii) supporting living activities that maintain patients’ unique aspects”. For example, an occupational therapist responsible for a patient who was a Japanese dance teacher focused on daily living activities in which the bedridden patient was interested, thereby revealing that patient’s unique lifestyle. In their story, the occupational therapist **(...)**

---

![Diagram](image-url)
therapist described how ‘the patient talked about creating a form of Japanese dance that could be done sitting down and actually created this form of dance’. This ‘greatly changed the patient’s lifestyle’.

In (2) intervening in a way that respects these unique habits and roles, occupational therapists supported patients in experiencing a unique lifestyle by “(iii) intervening in a way that respects patients’ life roles” while also “(iv) intervening in a way that respects patients’ living habits”. For example, an occupational therapist of a patient with incomplete tetraplegia from a neck tumour supported the patient in living activities tailored to his lifestyle. In their story, the occupational therapist described how they ‘walked together, during working hours, covering the 800-m distance from the patient’s workplace to his house’.

In (3) encouraging a unique way of living, occupational therapists supported patients through intervention by “(v) encouraging patients’ unique aspects” more at home and “(vi) encouraging patients in living a life that feels unique to them’. This involved supporting patients so that they could perform their own individual routines and live unique lifestyles in their familiar homes. Occupational therapists intervened by surmising how beneficial it is for the patient to live in his/her home. In one of the stories, an occupational therapist described how ‘it is natural to intervene in a way that allows one to feel that the person is living’.

b) Storyline for analysing and predicting living activities

[Analysing and predicting living activities] involved (4) evaluating patients’ self-awareness of living activities to gain an understanding of their awareness of their own capabilities while (5) analysing patients’ adaptability to living activities to ascertain the degree of engagement in living activities and predict patients’ future living activities.

In (4) evaluating patients’ self-awareness of living activities, occupational therapists used “(vii) judging the degree of patients’ awareness of their own capabilities” to gain an understanding of patients’ self-awareness of their own capabilities and used “(viii) judging the degree of patients’ suspension of living activities” to ascertain the living activities from which patients were turning away. Occupational therapists also used “(ix) judging living tasks that patients had not noticed to analyse living activities that patients were unable to recognise. Occupational therapists evaluated patients’ adaptability to living activities. In one of the stories, an occupational therapist described how ‘patients play a large role in identifying needs of which they are not yet aware’.

In (5) analysing patients’ adaptability to living activities in home-based OT, occupational therapists used “(x) analysing behaviour so that patients can engage in their lifestyle” to gain an understanding of the patient’s lifestyle and used “(xi) analysing the environment so that patients can engage in their lifestyle” to ascertain the patient’s situation. Occupational therapists also used “(xii) analysing work that is useful for patients to perform in their lifestyle” to analyse activities that can contribute to maintaining their lifestyle. Occupational therapists therefore analysed patients’ adaptability to a different lifestyle. In one of the stories, an occupational therapist remarked, ‘If a patient in a wheelchair wishes to visit a golf course and grasps and swings a golf club, I would check the balance and swing, taking into account the environment of the golf course’. This was linked to the next step, ‘I was able to listen to the patient’s stories about where they went and what they did the week before’.

Discussion

“Identifying unique living activities” and “Analysing and predicting living activities” were based on the co-operative building of living activity goals. Practising support for patients in confronting living activities identified a structure in which patients carry the ability to autonomously lead their own lives. Occupational therapists used patients’ living spaces to support them in performing their own living activities, accumulating living activity experience, and engaging in living activities independently.

Christiansen (1999) [19] argued that occupation expresses and identifies an individual’s identity. In other words, it is estimated that a lot of personal experiences are accumulated in the living activities at home. In the current report, “identifying unique living activities” is understood in the context of co-operative building of daily activity goals in home-based OT, and intervention appears to focus on encouraging patient uniqueness and their sense of living a unique lifestyle. Furthermore, in “identifying unique living activities” in home-based OT, occupational therapists directly intervene in patients’ lifestyles, which indicates an interventional structure wherein evaluation and support take place simultaneously in OT.

Meanwhile, when patients lack experience in engaging in daily living activities because of an illness or disorder, they have no opportunities to recognise their own capabilities and may stop performing living activities at home [20]. Home-based OT involves “analysing and predicting living activities” to gain an understanding of patients’ self-awareness of living activities, which may serve to prevent the suspension of living activities.
Furthermore, occupational therapists evaluated patients’ self-awareness of living activities to analyse and predict patients’ adaptability to living activities. This suggests that occupational therapists predict patients’ future living activities on the basis of the degree of living activity recognition and adaptability of patients.

In addition, occupational therapists promote occupational engagement of patients [2, 21]. This is presumed to be a challenge for patients themselves. This involves “identifying unique living activities” and “analyzing and predicting living activities” to analyse adaptability to living activities and encourage motivation in patients. In the practice of home-based OT, conventional behavioural and environmental analyses and analyses of work that is useful to patients’ lifestyles are conducted to examine opportunities to motivate patients. Patients are consequently thought to willingly engage in living activities.

The MTDLP includes confirmation, analysis and prognosis of living behaviour. Our findings indicated that providing support to realise unique living activities, intervening in a manner that respects these unique habits and roles and encouraging a unique way of living are influential factors in the identification of living activities. Evaluating patients’ self-awareness of living activities and analysing their adaptability to living activities were identified to affect the analysis and prediction.

In other words, home-based OT has no fixed way as many personal experiences of patients are accumulated. Occupational therapists suggested that it is important to collaboratively explore the patient’s unique living activities.

Conclusions

The process of facilitating daily living activities in elderly individuals living in the community is supported by home based occupational therapists. Therefore, the practices of experienced occupational therapists respect the uniqueness of patients, and the process of cooperatively building goals with occupational therapists appears to allow patients to autonomously perform living activities.

By this research, interventions for occupational therapists working in elderly people and communities to maintain and improve daily living functions make the current state of their daily activities visible, and show the daily activities to be tackled along with their abilities. In other words, it is inferred that it is adapting the living act within the range that the elderly knows.

In this study, the viewpoint of occupational therapy realised the living behaviour of the patient. However, we could not judge whether we responded to our own emotions and feelings in this research nor show the relationship with patient intention.

In the future, according to the process of this research, we need to develop a questionnaire and a checklist as indicators and examine the viewpoint of occupational therapy.

Acknowledgements: We would like to give our sincere thanks to the occupational therapists who generously agreed to participate in this study. Finally, we are grateful to the referees for useful comments on earlier version of this paper.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

References


