

Differences between home-visit rehabilitation users and providers in their understanding of the content and subjective effects of rehabilitation practices

TOMOKO OHURA, OTR, MPH^{1, 2)*}, TSUTOMU TSUYAMA, OTR³⁾, TAKEO NAKAYAMA, MD, PhD²⁾

¹⁾ Division of Occupational Therapy, Faculty of Care and Rehabilitation, Seijoh University: 2-172 Fukinodai, Tokai, Aichi 476-8588, Japan

²⁾ Department of Health Informatics, Kyoto University School of Public Health, Japan

³⁾ Kumano Clinic, Japan

Abstract. [Purpose] This study aimed to clarify differences between home-visit rehabilitation users and providers in their understanding of the content and subjective effects of this practice. [Subjects] The subjects of this study were home-visit rehabilitation users and providers. [Methods] Home-visit rehabilitation users and providers were given self-administered questionnaires regarding home-visit rehabilitation, such as the content and subjective effects. The McNemar's test was used for statistical analysis. [Results] Responses of 34 pairs meeting the inclusion criteria were analyzed. Mean user age was 75.2 ± 9.2 years, and 58.8% (20/34) of respondents were female. In terms of home-visit rehabilitation content, users believed that the following 3 items had been "implemented" to a greater extent than that estimated by providers: paralysis improvement exercise, floor sitting and standing, and self-care activities. No significant differences in awareness were identified between users and providers regarding the maintenance/improvement effects of home-visit rehabilitation. [Conclusion] Users tend to consider that programs aimed at relieving symptoms and pain and improving mobility are being implemented to a greater extent than that considered by providers. Providers need to explain the aims of home-visit rehabilitation programs in a way that can be understood by users.

Key words: Home-visit rehabilitation, Subjective effects, Rehabilitation program

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INTRODUCTION

As quality of care is considered and evaluated, it is important for providers to pay close attention to client-centered views regarding issues that are relevant to them¹⁾. For elderly individuals, comprehensive geriatric assessment including nursing care and rehabilitation is needed^{2, 3)}. Care assessment for elderly people has been developed comprehensively and efficiently⁴⁾, and care providers appreciate that an understanding of the individual needs of elderly people is critical⁵⁾. Some studies have found that care providers and recipients vary in their views of care⁶⁻⁹⁾, but little is known regarding the specific differences in perspectives.

Aging of the population in Japan has become a major issue in recent years¹⁰⁾. The universal long-term care insurance system in Japan was initiated in 2000^{11, 12)}. One publicly insured service is home-visit rehabilitation. This service is provided by physical therapists, occupational therapists, and

speech-language therapists in clients' homes and includes exercise, training, advice, family education, and more. In Japan, where the number of elderly requiring care is increasing rapidly, home-visit rehabilitation is expected to play a crucial role. To this end, functional goals and sharing of goals in home-visit rehabilitation are critical in determining the course of rehabilitation¹³⁾.

It is well known that understanding each patient's (or client's) perspective is important in care settings¹⁾. Providers listen to the needs of their clients and their clients' families, and they explain rehabilitation goals and plans using various documents created for this purpose. Even similar programs may encompass very different goals for rehabilitation; incidentally, patients with similar goals for rehabilitation may require very different programs. Thus, care providers must explain the specific rehabilitation goals and programs to each user according to their level of understanding. However, it is unclear whether users understand the content of home-visit rehabilitation or whether they understand home-visit rehabilitation programs. It is also unclear whether the awareness of the users is equal to that of the providers.

This study aimed to clarify differences between users and providers in their understanding of the content and subjective effects of home-visit rehabilitation.

*Corresponding author. Tomoko Ohura (E-mail: oh-ura@umin.ac.jp)

SUBJECTS AND METHODS

The questionnaire was constructed by creating a pool of question items from past home-visit rehabilitation records and other documents. Through a series of meetings, 6 clinical practitioners (3 physical therapists and 3 occupational therapists) engaged in home-visit rehabilitation along with 1 researcher (occupational therapist) created a questionnaire comprising the following items: (1) 18 items pertaining to home-visit rehabilitation content, such as physical and mental function, basic movement, applied movement, and environmental improvements; (2) 17 items covering subjective effects related to physical and mental function, basic movement, applied movement, and environmental improvements; (3) difficulties before home-visit rehabilitation; (4) current satisfaction with life; and (5) satisfaction with home-visit rehabilitation. In addition to the questionnaire comprised of items (1), (2), (4), and (5) above, we created a questionnaire asking providers about their sense of satisfaction with the content of home-visit rehabilitation provided. At the time of distribution of the questionnaires to the users, the users received an explanation specifying that their responses would not be seen by those in charge of their home-visit rehabilitation, and traceable anonymity was provided.

In this study, we focused on (1) 18 items pertaining to home-visit rehabilitation content and (2) 17 items covering subjective effects. To evaluate (1), we asked each user and provider to "Please choose the level of implementation of the home-visit rehabilitation content within approximately the last month". Possible answer choices were "implemented", "not implemented", and "do not know". In our analysis, the responses of those who had engaged in home-visit rehabilitation within the past month were labeled as implemented, while those who responded that they had not engaged in home-visit rehabilitation or "do not know" were labeled as not implemented/unclear. To evaluate (2), we asked each user, "How has your condition changed since beginning home-visit rehabilitation?" Conversely, we asked each provider, "Have you noticed a difference in the condition of your user as compared with that when you began the home-visit rehabilitation?" Possible answer choices included "it has gotten better", "no change", and "it has gotten worse". In our analysis, changes occurring after initiation of the home-visit rehabilitation were labeled as maintenance/improvement for "it has gotten better" and "no change" and as deterioration for "it has gotten worse".

Of 155 users of home-visit rehabilitation for over a month at 5 home-visit rehabilitation centers, self-administered questionnaires were distributed to 66, with due attention paid to issues such as mental and psychological burden and sudden deterioration of cognitive function. In terms of basic user information, data were collected on sex, age, level of care required, medical condition, level of independence in daily life, cognitive function (The revised version of Hasegawa's Dementia Scale¹⁴), activities of daily living (Barthel Index¹⁵), instrumental activities of daily living (Tokyo Metropolitan Institute of Gerontology Index of Competence¹⁶) and user services.

We analyzed data from the responses of users over the age of 40 years who had generally maintained cognitive

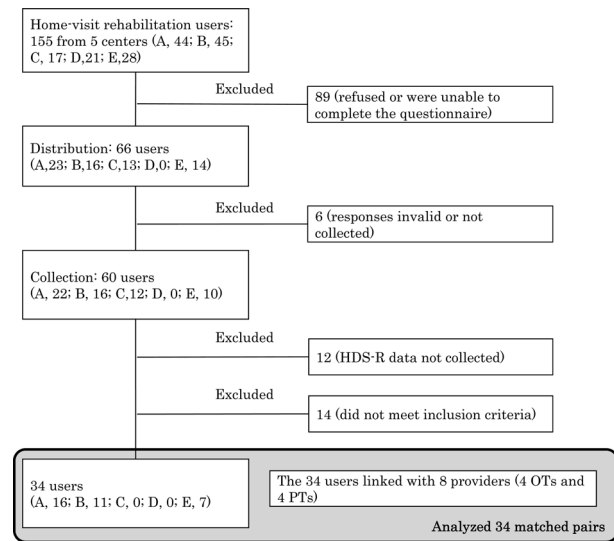


Fig. 1. Participant selection process

Sixty-six pairs of clients and therapists were given self-administered questionnaires. The final analysis utilized data from 34 pairs that met the inclusion criteria.

function (≥ 21 points on the revised version of Hasegawa's Dementia Scale¹⁴) and the providers who were linked to these users. Seventeen items covering subjective effects and 18 items pertaining to home-visit rehabilitation content, which were answered by users and providers, were used. In addition to descriptive statistics, McNemar's test¹⁷ was used to compare proportional differences between the responses from users and providers, with statistical significance set at $p < 0.05$. Analyses were performed with IBM SPSS 20.0 J.

The study protocol was approved by the Ethics Committee of Seijoh University (2011C0007). Although the 5 participating home-visit rehabilitation centers did not have ethics committees, the director at each center approved the study. On the cover of the questionnaire, we explained the protocol concerning data management as well as our research objectives. Specifically, we stated that the questionnaire envelope would be opened only by the researcher (not the home-visit rehabilitation provider) and that not participating in the study would not in any manner confer a disadvantage in service use. No identifying information of any user (name, medical record number, etc.) was taken out of the centers.

RESULTS

Responses were received from 60 pairs of users and providers, of which responses of 34 pairs from 3 home-visit rehabilitation centers met the inclusion criteria for analysis in this study (Fig. 1). The mean user age was 75.2 ± 9.2 years, 58.8% (20/34) of the respondents were female, and 44.1% (15/34) of the respondents were living alone. The main medical condition was cerebrovascular disease for 35.3% (12/34) of the respondents, and 8.8% (3/34) of the respondents were national health insurance users of home-visit rehabilitation. Of the users of long-term care insurance for home-visit rehabilitation, 20.6% (7/34) required care at

Table 1. Study participants (users)

	N	%	Mean ± SD
Living conditions			
Alone	15	44.1	
With spouse	14	41.2	
With child's family	4	11.8	
Other	1	2.9	
Main disease			
Cerebrovascular	12	35.3	
Bone and joint	9	26.5	
Neuromuscular	6	17.6	
Disuse syndrome	2	5.9	
Other	5	14.7	
Frequency of going out* (number of times/week)			2.7±1.8
Barthel Index			83.8±21.6
HDS-R			27.0±2.8
TMIG			8.0±3.8
Times of HR/month			5.6±2.9

* Including daycare and day services, going to hospital, etc.
HDS-R: The revised version of Hasegawa Dementia Scale,
TMIG: Tokyo Metropolitan Institute of Gerontology Index of Competence, HR: home-visit rehabilitation

levels 3 to 5. The mean frequency of use in the current month was 5.6 ± 2.9 times (Table 1).

In terms of home-visit rehabilitation content programs, users felt that the following 3 items had been implemented to a significantly greater degree than was estimated by providers ($p < 0.05$): paralysis improvement exercise, floor sitting and standing, and self-care activities. We found no significant differences between users and providers for any of the other items (Table 2) or in awareness of maintenance/improvement resulting from home-visit rehabilitation (Table 3).

DISCUSSION

The present study analyzed responses from 34 pairs of users and providers who met the inclusion criteria. In terms of home-visit rehabilitation content, users believed that paralysis improvement exercises, floor sitting/standing, and self-care activities had been implemented to a greater extent than that estimated by providers. Evidently, users tend to think that programs aimed at relieving symptoms and pain and improving personal movement are being implemented to a greater extent than providers think. We identified no significant difference in awareness between users and providers regarding the maintenance/improvement effects of home-visit rehabilitation. This suggests a need for providers to explain and incorporate the aims of the home-visit rehabilitation program in a way that can be understood by users.

As inpatients also perform exercise and undergo treatment as well as self-care training, rehabilitation tends to be mistaken for functional training. In addition, some have pointed out that users expect items related to functional training, basic operations, and movement to be incorporated into home-visit rehabilitation¹⁸⁾. On the other hand, differ-

Table 2. Contents of home-visit rehabilitation

	Pairs		Users		Providers	
	N	N	%	N	%	
Muscle and physical strength	34	31	91.2%	25	73.5%	
Stretching and exercise of range of motion	33	30	90.9%	28	84.8%	
Indoor movement	33	27	81.8%	20	60.6%	
Massage	32	23	71.9%	17	53.1%	
Paralysis improvement exercise	31	22	71.0%	10	32.3% *	
Self-training and advice	31	20	64.5%	23	74.2%	
How to move	32	19	59.4%	13	40.6%	
Housing repair and devices	31	15	48.4%	10	32.3%	
Outdoor movement	32	15	46.9%	12	37.5%	
Floor sitting and standing	32	12	37.5%	5	15.6% *	
Climbing stairs and entrance	34	11	32.4%	9	26.5%	
Self-care activities	31	10	32.3%	3	9.7% *	
Consultation for anxiety and worries	31	10	32.3%	12	38.7%	
Breathing	33	11	33.3%	4	12.1%	
Speaking, reading, and writing	33	7	21.2%	5	15.2%	
Housework and leisure activities	30	6	20.0%	8	26.7%	
Choking and swallowing	32	3	9.4%	0	0.0%	
Working	29	0	0.0%	0	0.0%	

McNemar's test was used with statistical significance set at $p < 0.05$. * $p < 0.05$

Table 3. Maintenance or improvement of home-visit rehabilitation

	Pairs		Users		Providers	
	N	N	%	N	%	
Family relationships	32	31	96.9%	32	100.0%	
Risk of falling	32	31	96.9%	27	84.4%	
Symptoms and sequelae	30	29	96.7%	25	83.3%	
Pain and suffering	30	29	96.7%	27	90.0%	
Choking and swallowing	29	28	96.6%	29	100.0%	
Friendship	32	30	93.8%	32	100.0%	
Work and hobbies	30	28	93.3%	30	100.0%	
Decline of physical strength and fatigue	31	28	90.3%	28	90.3%	
Decreased frequency going out	31	27	87.1%	26	83.9%	
Muscle weakness	30	26	86.7%	28	93.3%	
Forgetfulness	30	26	86.7%	26	86.7%	
Anxiety about the future	30	26	86.7%	25	83.3%	
Self-care activities	32	27	84.4%	31	96.9%	
Housework	31	26	83.9%	30	96.8%	
Use of public transportation	30	25	83.3%	29	96.7%	
Climbing stairs	31	25	80.6%	28	90.3%	
Walking and moving	30	24	80.0%	28	93.3%	

McNemar's test was used with statistical significance set at $p < 0.05$. There were no significant differences.

ences between reasons for using services and daily life goals were previously reported for the present study population¹⁹⁾. Thus, providers understand the rehabilitation demands on and needs of the users and must explain to the users the programs and goals of rehabilitation, including the professionals' view of activities and participation. Strategies to improve and promote communication between providers and users must be developed in the future.

There are two main limitations of the present study. First, the analysis was conducted on data from subjects who had maintained cognitive function. Therefore, responses were those from relatively independent subjects receiving home-visit rehabilitation. Our results thus focused on home-visit rehabilitation centers with subjects exhibiting high independence. Second, as the study was conducted in a specific region, generalization of the results may be imprudent, as other regions may have different numbers of home-visit rehabilitation centers and manpower, and regional culture and characteristics of local residents are also likely to be different. However, the present study targeted multiple home-visit rehabilitation centers that remained anonymous, and the analysis was performed by matching the providers with users who were capable of responding. Therefore, our results may be valuable for practical implementation in clinical settings. Future studies should examine whether the results of this study apply to home-visit rehabilitation centers in other regions and clarify the situation pertaining to other services such as residential care and day care services. Such studies would be useful for development of methods used to explain appropriately the rehabilitation content provided to users.

In conclusion, our results imply that providers should understand the gap between users and providers concerning the content of home-visit rehabilitation and explain the aims of home-visit rehabilitation programs in a way that can be understood by users.

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REFERENCES

- 1) Vaarama M, Pieper R, Frommelt M, et al.: The Concept of Long-Term Care. In: Vaarama M, Pieper R, Sixsmith A, eds. Care-related quality of life in old age. New York: Springer, 2008, pp 102–124.
- 2) Rubenstein DB: Comprehensive Geriatric Assessment and Systems Approaches to Geriatric Care. In: Cassel CK, Leipzig RM, Cohen HJ, et al., eds. Geriatric Medicine, 4th ed. New York: Springer, 2003, pp 195–203.
- 3) Rubenstein LZ, Rubenstein LV: Multidimensional geriatric assessment. In: Brocklehurst JC, Tallis RC, Fillit HM, eds. Textbook of Geriatric Medicine and Gerontology, 4th ed. New York: Churchill Livingstone, 1993, pp 150–159.
- 4) Kane RL: The Long and the Short of Long -Term Care. In Cassel CK, Leipzig RM, Cohen HJ, et al., eds. Geriatric Medicine, 4th ed. New York: Springer, 2003, pp 99–110.
- 5) Slade M: Needs assessment. Involvement of staff and users will help to meet needs. *Br J Psychiatry*, 1994, 165: 293–296. [[Medline](#)] [[CrossRef](#)]
- 6) Rothwell PM, McDowell Z, Wong CK, et al.: Doctors and patients don't agree: cross sectional study of patients' and doctors' perceptions and assessments of disability in multiple sclerosis. *BMJ*, 1997, 314: 1580–1583. [[Medline](#)] [[CrossRef](#)]
- 7) Litwin MS, Lubeck DP, Henning JM, et al.: Differences in urologist and patient assessments of health related quality of life in men with prostate cancer: results of the CaPSURE database. *J Urol*, 1998, 159: 1988–1992. [[Medline](#)] [[CrossRef](#)]
- 8) Löfmark A, Hannersjö S, Wikblad K: A summative evaluation of clinical competence: students' and nurses' perceptions of inpatients' individual physical and emotional needs. *J Adv Nurs*, 1999, 29: 942–949. [[Medline](#)] [[CrossRef](#)]
- 9) Okamoto H, Okada S: [Differences in subject needs between nursing home residents' and residential care professional's perspectives]. *Nippon Kosho Eisei Zasshi*, 2002, 49: 911–921 (in Japanese). [[Medline](#)]
- 10) Tulchinsky TH, Varavikova EA: The new public health. Burlington: Elsevier Academic Press, 2009.
- 11) Ikegami N: Public long-term care insurance in Japan. *JAMA*, 1997, 278: 1310–1314. [[Medline](#)] [[CrossRef](#)]
- 12) Ministry of Health, Labour, and Welfare (Japan): Annual Health, Labour and Welfare Report 2007–2008. URL: <http://www.mhlw.go.jp/english/wp/wp-hw2/> (Accessed Jul. 12, 2014)
- 13) Kamioka Y, Yoshino T, Sugaya K, et al.: Goal-setting method and goal attainment measures in physical therapy for stroke patients: a systematic review. *J Phys Ther Sci*, 2009, 21: 399–415. [[CrossRef](#)]
- 14) Katoh S, Simogaki H, Onodera A, et al.: Development of the revised version of Hasegawa's Dementia Scale (HDS-R). *Jpn J Geriatr Psychiatry*, 1991, 2: 1339–1347 (in Japanese).
- 15) Mahoney FI, Barthel DW: Functional evaluation: the Barthel Index. *Md State Med J*, 1965, 14: 61–65. [[Medline](#)]
- 16) Koyano W, Shibata H, Nakazato K, et al.: Measurement of competence in the elderly living at home: development of an index of competence. *Nippon Kosho Eisei Zasshi*, 1987, 34: 109–114 (in Japanese).
- 17) Field A: Discovering statistics using SPSS, 3rd ed. London: Sage Publications, 2009.
- 18) Hagino M, Kimura N, Imai M, et al.: Needs survey of home-visit rehabilitation users: questionnaire survey report. *J Aichi OT*, 2009, 17: 25–30 (in Japanese).
- 19) Ohura T, Tsuyama T: Reasons for starting home-visit rehabilitation services and daily life goals of users: Qualitative analysis of users' self-recorded content. *Jpn Occup Ther Res*, 2014, 33: 517–525 (in Japanese).

1) Vaarama M, Pieper R, Frommelt M, et al.: The Concept of Long-Term