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An exploratory study on the role of occupational therapists in home-based rehabilitation team in South Korea

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Abstract

Introduction: Cooperation among rehabilitation team members is essential in the home-based rehabilitation setting. Q-methodology that can quantitatively analyze the subjectivity of members of the rehabilitation team was used to explore the role of occupational therapists (OTs) in home-based rehabilitation. **Methods:** The Q-methodology process was implemented in five steps: Step 1 - Representative statements about the role of OTs were collected through in-depth interviews, open questionnaires, and literature reviews (Q-sample); Step 2 - A total of 34 rehabilitation team members (physical therapists, OTs, social workers, nutritionists) were recruited (P-sample); Step 3 - The statements were classified according to their subjective perspective (Q-sort); Step 4 - Factor analysis was performed based on the correlation among the responses from the participants (Q-factor analysis); Step 5 - The awareness factor for roles was interpreted (Interpretation of awareness factors). **Results:** The roles of OTs perceived by members of the home-based rehabilitation team were formed into five factors (A) Adaptation within home environments; (B) Professional development; (C) Reliable service execution; (D) Client needs resolution; and (E) Focus on activity participation. In all factors, perspectives on the role of OTs in helping clients participate in their roles and activities at home were included. These factors included issues and directions addressed in prior literature on the development of occupational therapy. **Conclusions:** In home-based rehabilitation, OTs must play a professional role in ensuring clients live fully at home, and cooperate with team members for an effective rehabilitation approach.

Keywords

home-based rehabilitation team, occupational therapist, Q-methodology, awareness of roles

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Introduction

Occupational therapists (OTs) take a professional role in providing health services in real-life environments to manage complex health conditions of people with disabilities (Rexe et al., 2013). For people with disabilities, the home is not only the most familiar environment but also the most natural environment for rehabilitation that can improve independence and autonomy (Portnow et al., 1991). As such, living with the ability to stay safely in one's own home is recognized

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as extremely important in health care services (Bridge et al., 2006). In community settings, OTs provide health services with a variety of specialists (Hjelle et al., 2018).

A rehabilitation team is a core element in the field of rehabilitation as it is essential to exchange opinions with professionals in various fields to achieve the rehabilitation goals for the health of people with disabilities (Barnes & Radermacher, 2003). The rehabilitation team is composed of doctors, nurses, physical therapists, OTs, nutritionists,etc. (O'Dowd et al., 2015), and provides rehabilitation services in cooperation with each other with a professional focus (Croker, 2011). Such a rehabilitation team was emphasized in the field of rehabilitation because it can have a greater effect than an individual's effort when professionals with expertise demonstrate teamwork to achieve common goals (Singh et al., 2018).

As the roles, tasks, and approaches of professionals in various fields are further subdivided and developed, cooperation among team members is becoming more emphasized (Fewster-Thuente & Velsor-Friedrich, 2008). To improve the efficiency and quality of cooperation of the rehabilitation team, it is necessary to understand the roles of different professions and to support sufficient communication and interaction (Franz et al., 2020). Team activities and interactions can be perspectives as team dynamics, and team dynamics can successfully achieve the common goals of health and well-being and improve the quality of the service in a rehabilitation team (Tijsen et al., 2019).

To effectively draw out a common goal in an interdisciplinary team, it is necessary to understand the roles of each field and establish an identity for one's role within the team (White et al., 2013). Team collaboration can be effectively achieved by clearly identifying the roles and contributions of one's field within the team (Macdonald et al., 1998). As such, it is desirable to respect the roles of team members based on knowledge and understanding of different professional roles, and through this, close cooperation and interaction are the main characteristics of a rehabilitation team (Birkeland et al., 2017).

Home-based rehabilitation has a positive effect on daily life and self-care of people with disabilities, and reduces dependence on medical facilities and hospitalization period, resulting in cost savings (Choi et al., 2007; Fearon et al., 2012). Through this, patients are breaking away from long-term institutionalization to successfully transition to local communities (Wong et al., 2017). However, when the roles of OTs in home-based rehabilitation are perceived differently among diverse team members, OTs have difficulty providing health services (Cheung, 2013). In this context, having team members a common awareness and knowledge of their roles can lead to effective cooperation (Kang, 2013). The need for research for in-depth exploration of the role of OTs to maximize opportunities for cooperation has been continuously reported (Quick et al., 2010; Toto, 2006; Turcotte et al., 2019).

In an interdisciplinary team that cooperates with various fields, the Q methodology is used to in-depth explore the subjective opinions and awareness of team members. This research aims to quantitatively analyze the subjectivity that reflects the opinions, beliefs, and attitudes of team members in the rehabilitation team and explore the role awareness of OT through this.

Methods

Research design

This study analyzed the subjectivity of home-based rehabilitation team members with Q-methodology to explore the role of OTs in home-based rehabilitation. The awareness of the roles of OTs was categorized, and roles and strategies were suggested as a reference. Following the execution steps in Kim (2016), the Q-methodology procedures were divided into five steps (Figure 1). This study was approved by the local institutional review board and followed the principles of the Helsinki Declaration (KYU-2020-004-01). Informed consent was collected from all participants after adequately explaining the research.

Composition of Q-sample

The Q-statements collected statements representing and embracing the role of OTs in home-based rehabilitation teams. For the collection of statements, oral and extractive were implemented through in-depth interviews, open questionnaires, and literature review.

The in-depth interview was conducted as a group interview (for two professors, OTs) and an individual interview (for two clinicians, OTs). The interview question began with "What is the role of the OTs in home-based OT?" Information were collected based on the interviewees' responses according to their knowledge and experiences. The open questionnaire (five clinicians, OTs) consisted of 11 questions, for example, about 'the main roles of OTs', 'differences in roles in the home and medical settings, and 'differences in roles with team members. The questionnaire was anonymized so that subjective responses could be recorded as much as possible. Regarding the literature review, books, research papers, and magazines were comprehensively identified and reviewed through keywords' search such as 'Home-based', 'Visit', 'Rehabilitation', and 'OT'. A total of 232 statements were collected through the literature review.

Representative statements were extracted through the unstructured sample method, which randomly selects representative ones among the collected statements. In addition, systematic sampling was applied to categorize the statements with common meaning or equivalent. The categorization was based on the results of research on OTs

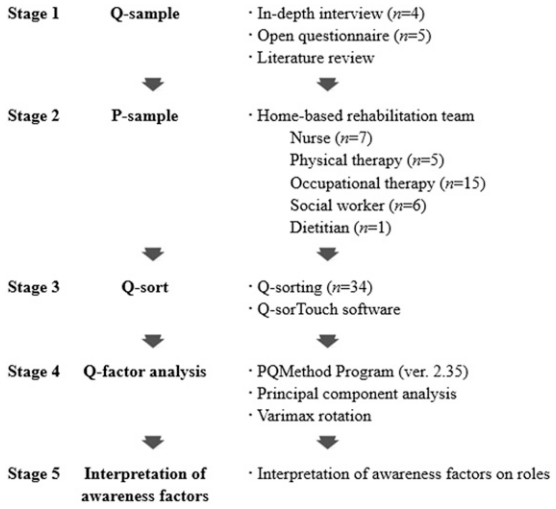

Figure 1. Research procedures.

job analysis (Lee et al., 2014). In the study, six areas are defined as OTs job which are counseling, assessment, intervention plan, self-development, intervention, and education and management. In addition, to classify statements that did not meet the existing classification criteria, the areas of OTs job capabilities and administration and institution were added and categorized into a total of eight areas.

The Q-samples were selected as the following process to select statements that have strong meanings and do not overlap with another from the Q-statements categorized into eight areas. Statements categorized according to criteria were reviewed by a social worker, special education teacher, and speech therapist for differences in the methods and meaning of statements. Next, five graduate students of a doctoral course in occupational therapy went through a reconfirmation process to ensure that statements were prepared in a way that could convey appropriate content and meaning. Finally, to select appropriate statements and be represented by category, a validity test was conducted by seven professors in occupational therapy departments. Consequently, the final 52 Q-samples were selected.

To confirm the reliability of the Q-sample, three clinicians (speech therapist, OTs, and physical therapist) verified the reliability by sorting and re-sorting the sample. The correlation coefficient was found to have a value of r = 0.7~0.8, indicating high reliability with r = 0.80 (Kim, 2008) (Supplementary material).

Composition of P-sample

P-sample refers to respondents participating in Q-sort, and it is based on the small-sample doctrine because it focuses on how to structure Q-sample (Brown, 1980). When a P-sample size is large, a regression phenomenon to the mean occurs which means the number of factors may decrease, and the characteristics may appear unclear (Kim, 2008). Experts in Q-methodology report that a sample size of 30–50 people is adequate for P-sample (Kim, 2016). In this study, a total of 34 nurses, physical therapists, OTs, social workers, and nutritionists who provide home-based rehabilitation were sampled by purposive sampling method.

Q-sort

Q-sort is the process of allocating the distribution chart in the sequence that is important to the individual according to the perspective of the P-sample for the Q-sample. The distribution map chart was set in the shape of a platykurtic, and the scale used an 11-point scale because the categorization range could be wider if there were more than 40 Q-samples (Brown, 1980; Figure 2). In this study, the forced-distribution method was applied to categorize according to the number of set distribution chart shapes.

Initially, Q-samples were randomly presented to P-samples for the Q-sorting so that they could understand and become familiar with the samples. Next, P-samples were asked to reflect an individual's perspective and categorize the Q-sample into three parts: positive (+), negative (-), and neutral (0). Also according to the degree of agreement, recategorizations were made in the order of strong positive (+5), next positive (+4, +3, +2, +1), strong negative (-5), and next negative (-4, -3, -2, -1), and the rest were placed in neutral (0). After that, it was proceeded to be corrected through a reconfirmation process.

In this study, Q-sort used an online-based Q-sorTouch program that can be applied with a method and procedure similar to that of physically categorizing statement cards of Q-samples (Pruneddu, 2016).

Data processing and analysis

Statement counts and numbers categorized in Q-sort distribution were checked to assign points from strongly negative (1 point [−5]) to neutral (6 points [0]) and strongly positive (11 points [+5]) (Figure 2). For the data analysis, the PQMethod (Ver. 2.35) computer statistics program was used to analyze the Q-sort data in the Q-methodology study (Schmolck, 2016).

Q-factor analysis was analyzed by Principal Component Analysis (PCA), and factors were selected according to the following criteria. First, the eigenvalue of the factors had to be >1.0 (Kaiser, 1970). Second, each factor had to have at least two people loaded with significance, the factor loadings satisfying the 0.01 level of significance (=2.58×[1/√n]) (n=Q-sample number) (Brown, 1980). Third, the cross-product of the highest two items of each factor had to follow Humphrey's rule, which selects the factors that exceed twice the standard error (=2×[1/√n]) (n=Q-sample number) (Fruchter,

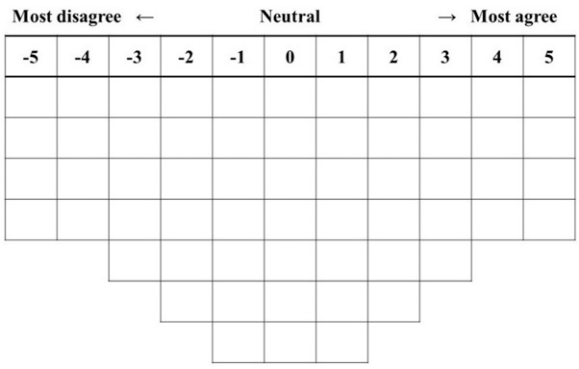

Figure 2. Q-sample distribution chart.

1954). The extracted main factors were applied using the Varimax rotation method to show the transition change distinctly and increase the explanation ability (Brown, 1980).

Results

Formation of awareness factors

Analysis of the characteristics of each factor revealed that 13 factors showed an eigenvalue of over 1.00. Next, six factors satisfied a significance level of 0.01 in the factors with at least two people loaded. These six factors satisfied Humprey's rule, or that the cross-product of the two items with the highest loadings values in each factor exceeded the standard error twice. Finally, in interpreting and explaining the meaning of the subject of this study, five factors were selected that were considered meaningful.

The final five factors were selected, and 24 people of the 34 respondents belonged to one of the factors (Factors A: seven people, factors B: six people, factors C: five people, factors D: three people, factors E: three people) (Table 1). The other 10 people were treated as null cases because they did not show any significant loadings in any factor. The overall explanatory ability was approximately 43.03% for the five factors of the roles awareness of OTs, which was considered an adequate level, satisfying the typical 35%–40% in the Q-methodology (Kline, 1994). Eigenvalues and explanatory levels for each factor are reported in Table 2.

Interpretations of the five factors were interpreted focusing on the statements categorized as both extreme values in each factor. The Q-sort values of the factors for each statement are presented in Table 3.

Factor A (adaptation within home environments)

Factor A (variance = 13.16%, n = 7) was considered an approach centering on the home environment to independently and safely execute daily activities and meaningful occupations (Statement 7). It also evaluated the relationship between the problems in occupational performance and environmental factors and found resolutions (Statements 6 and 8).

Conversely, subjectivity regarding the necessity of capability development related to administration required for service encounter process and execution to efficiently apply community resources had relatively low importance (Statements 30 and 47). In addition, the statement about efforts to increase the understanding of occupational therapy had low importance (Statement 51).

Factor B (professional development)

Factor B (variance = 8.62%, n = 6) emphasizes the provision of professional rehabilitation services by enhancing the therapist's expertise and capabilities to provide rehabilitation services that can cause changes in people with disabilities (Statements 12, 26, and 51).

Conversely, clients' social environment, problematic policies and systems, barriers to fulfilling their role as social members, and active attitude to build a community resource and network had relatively low importance (Statements 2, 30, and 48).

Factor C (reliable service execution)

Factor C (variance = 7.80%, n = 5) is characterized by emphasizing the methods and means of understanding the client's perspective and establishing relationships, the necessity of increasing the workforce, and the active attitude of the OTs (Statements 29, 31, and 45).

Conversely, consultation with the client to establish intervention goals, intervention strategy attempted at home, service provision system (number of treatment sessions), and intervention behavior protection system had relatively low importance (Statements 23, 25, and 38).

Factor D (client needs resolution)

Factor D (variance = 7.48%, n = 3) is considered to provide rehabilitation services to reflect the client–therapy objective. It has been shown important the performance of role that facilitate change by taking the client's disabilities and occupational experience, the client's role as a member of society, and the factors of the residential environment into account (Statements 4, 6, and 42).

In home-based rehabilitation, the OTs competency as a service provider, management of the service provision method and system, and role in preparing a protection system for treatment behavior had relatively low importance (Statements 3, 49, and 50).

Table 1. Five factors for the OTs roles formed by the P-sample.

Demographic Variables	Factor A *n* (Career=y)	Factor B *n* (Career=y)	Factor C *n* (Career=y)	Factor D *n* (Career=y)	Factor E *n* (Career=y)
Nurses	2 (9.5)	2 (14.0)	2 (5.5)	—	—
PTs	1 (12.0)	1 (3.0)	1 (7.0)	—	—
OTs	2 (8.0)	2 (5.0)	1 (13.0)	3 (4.0)	2 (3.5)
SW	2 (6.0)	1 (1.0)	1 (1.0)	—	1 (10.0)
Dieticians	—	—	—	—	—

Abbreviations: Factor A; Adaptation within home environments, Factor B; Professional development, Factor C; Reliable service execution, Factor D; Client needs resolution, Factor E; Focus on activity participation, PTs; Physical therapists, OTs; Occupational therapists, SW; Social worker.

Table 2. Eigen value and variance by factors.

	Factor A	Factor B	Factor C	Factor D	Factor E
Eigen value	4.4753	2.9299	2.6515	2.5426	2.0283
% of variance	.1316	.0862	.0780	.0748	.0597
Cumulative variance	.1316	.2178	.2958	.3706	.4303

Factor E (focus on activity participation)

Factor E (variance = 5.97%, n = 3) was evident as a group of people who strongly affirms/agree in terms of the safe and effective performance and participation of the clients based on their disability characteristics and occupational experience (Statements 4, 7, and 40).

However, the level of importance ratings were relatively low in the items meaning that there is urge need and effort to re-emphasize the purpose and role of occupational therapy in the clinical setting and inform the understanding from others (Statements 5, 33, and 39).

Discussion

The importance of collaboration and interaction among relevant team members is increasing as the roles of professionals that impact the health and well-being of people with disabilities become more specific and complicated (Fewster-Thuente & Velsor-Friedrich, 2008). This research provided an in-depth exploration and explanation of the roles of OTs perceived by rehabilitation specialists related to home-based occupational therapy by categorization.

Adaptation within the home environment factor A was interpreted as a role of supporting an independent and safe life by understanding the relationship between daily life activities and meaningful occupation at home. This was similar to the assertion of providing rehabilitation services for daily occupations and productive activities that fit the actual lifestyle (Minami & Kobayashi, 2019). Generally, people who return home from medical facilities face various difficulties due to activity limitations (Glickman et al., 2015), and their needs for occupational therapy within the home environment are high (Kim & Kim, 2019). Romli et al. (2017) reported that it was essential for the OT to visit homes to intervene before people with disabilities are discharged from hospitals. With the advantage of working in a natural context, OTs in home-based rehabilitation should be able to actively utilize the context, therapeutically. By observing and understanding the occupations closely clients will develop a clearer role.

The professional development factor B placed importance on the enhancement of quality improvement and clear role performance of OTs, which directly relates to the health improvement of people with disabilities. Although the perspectives of OTs in various job situations and backgrounds cannot be generalized, the importance of professional roles in the community is highly valued (Hong, 2019). Hall (1968) reported that the clear role performance of experts depends on the established professional identity. For OTs, occupation is a core subject of interest in individuals' lives, which makes it a vital element in explaining the professional identity of occupational therapy (Hooper et al., 2014). When the OTs recognize the occupational therapy identity, they will be able to contribute to the team by performing a roles distinguished from other professional personnel through occupational-based practice (Ikiugu & Rosso, 2003). Considering that experts demonstrate teamwork in the community, it will prove the influence of the team by promoting teamwork when facilitating the identity of their professional area and performing their roles.

Factor C, reliable service execution highlights establishing a positive relationship with the client in the initial phase of the service provider before the intervention approach and practice and enabling the service to be efficiently provided. This factor

Table 3. Factor Q-sort for each statements.

		Loading -5 to +5				
Factor Values for Q-Statements		A	B	C	D	E
	Consultation					
1	Consultation is conducted to understand the client's lifestyle.	−1	0	3	−4	−1
2	Identify problems with performing a role as a member of society.	−4	−5	4	−1	2
3	Identify problems in activity and participation that arise in individual life.	1	1	0	3	3
4	Identify the needs that appear from an individual's occupational experience.	1	0	4	5	5
5	Counseling is conducted to enhance understanding of the purpose and role of therapy and to confirm the desire for it.	−1	3	2	−2	−5
	Assessment					
6	To assess physical and environmental factors by visiting an actual household.	5	−1	0	5	−2
7	Observe directly the performance of daily life and occupational activities, and evaluate independence and safety.	5	−3	0	2	5
8	Identify barriers and possibilities for problems with activities at home.	5	3	−1	1	3
9	Information is collected through occupational profiles to understand the perspective and context of individual life.	3	2	1	0	0
	Intervention planning					
10	Clinical reasoning is conducted and interpreted to understand the client's performance in the occupation.	1	1	2	3	−4
11	To determine whether a client discharged from a medical facility can adapt at home.	−1	−4	−1	0	−3
12	Reflects client-centered treatment goals by considering individual characteristics, environment, and occupation factors.	3	5	2	−2	2
13	Plan intervention goals and directions based on the Practice domain and process of the occupational therapy practice framework.	3	1	1	−2	3
14	Plan occupational participation by considering life cycle, context, and environmental factors according to client age.	2	−2	−3	−1	2
15	Engage the client in the process of establishing intervention goals and consult with the therapist.	4	4	−4	0	1
	Intervention					
16	Maintain the health and well-being of the client and conduct interventions to prevent deterioration.	−3	2	2	0	4
17	Attempt intervention to improve the meaningful activity of the client based on the occupation.	1	−1	−2	0	−2
18	Respect the client's occupation and social role and intervene with an occupational perspective based on this.	−3	−3	3	−1	−3
19	Intervention is conducted to promote the social participation of clients who spend a lot of time at home.	2	0	1	−3	−3
20	Support for safe independent and beneficial life in real residential environments.	4	−3	1	0	4
21	It improves understanding of the changed lifestyle due to disability and suggests the need for redesign.	−2	1	−1	−4	0
22	Intervention is when a person can actively participate in one's daily life and meaningful activities.	2	4	1	1	4
23	To carry out independent activities at home, try compensatory strategies such as environmental modification and assistive devices.	−1	2	−5	3	1
24	Intervention is conducted to resolve the problem of activities and participation experienced in real homes.	4	−4	−4	4	0
25	Provides services by deciding the number of services in the form of intensive/regular management according to the client's health conditions.	0	−3	−5	−2	−3
	Self-development					
26	Efforts shall be made to develop evidence-based intervention manuals and guidelines suitable for community settings.	1	5	−1	−3	4
27	The therapist should make an effort to have an understanding and expertise in the occupation.	2	0	4	4	−1
28	Efforts shall be made to have practical performance capabilities that reflect academic expertise and community characteristics.	−2	2	2	−3	−2
29	Have counseling skills and the ability to understand the client's characteristics, viewpoints, and background.	−2	−1	5	1	−2
30	Administrative capacities should be strengthened to utilize community resources and build networks.	−5	−5	1	−3	3
31	Efforts should be made to equip the competence of a professional occupational profile.	−3	−2	5	2	−1
32	Efforts are needed to equip professional clinical reasoning skills.	0	−1	−1	1	−2

(continued)

Table 3. (continued)

	Factor Values for Q-Statements	Loading -5 to +5				
		A	B	C	D	E
	Education and management					
33	Ensure that the client understands the purpose of occupational therapy and the role of the therapist and engages in intervention.	−1	2	−2	2	−5
34	Educate clients on their potential, strengths, and methods of help, and enable them to actively participate in their occupation.	0	−2	0	4	−3
35	Actively participate in the process of building a community rehabilitation team and collaborating.	2	−1	−2	−1	−4
36	Efforts should be made to reflect the methods and numbers of performance measurements appropriate for occupational therapy.	−4	−2	−1	3	2
37	Changes to the client's lifestyle and occupation balance must be managed.	0	−3	−4	−3	−1
	Occupational therapist job capabilities					
38	OTs have a good understanding of ICF's activities and areas of participation.	−4	−2	−5	−1	0
39	OTs attempt interventions considering aspects of activity, participation, and overall context.	0	4	−2	−5	−5
40	OTs work as experts in basic/instrumental daily life, leisure, and social participation.	3	0	3	1	5
41	It is a preventive health care health service for the healthy life of people with disabilities.	−4	0	−3	3	1
42	Contribute so that clients can have a role and enjoy life as a member of society.	−1	3	−3	5	2
43	OTs have close relationships with clients and perform a role in providing intervention.	−2	1	−3	2	1
44	Performs duties such as evaluation, intervention, and performance evaluation for clients.	3	1	−3	1	−1
45	The number of OTs working in the community should be increased.	−3	3	5	−2	1
46	Since the therapist him/herself can be used therapeutically, the theoretical point of view must be clear.	0	−1	3	−4	3
	Administration and institution					
47	Efforts should be made to establish a link system between medical facilities and communities for clients.	−5	−4	0	−1	1
48	Efforts should be made to change factors, policies, and social environments that hinder people with disabilities.	−3	−5	−2	2	−1
49	Efforts should be made to develop a monitoring system suitable for the characteristics of interventions and to manage in-depth quality indicators.	−2	−4	4	−5	−4
50	A therapist protection system should be established for the intervention performed at home.	1	3	−4	−5	0
51	Efforts should be made to enhance the understanding of occupational therapy among medical, health, and administrative.	−5	5	0	4	−4
52	A manual should be prepared for the role of the occupational therapist in the community.	4	4	3	−4	0

understands the client's occupational identity and reflects the overall context of the provision of occupational therapy services to enable occupational participation, and emphasizes the cornerstones of occupational therapy (American Occupational Therapy Association, 2020). OTs should emphasize an occupation-based practice that is meaningful to the client for reliable service execution, which has been reported to lead to close interaction with team members (Turner & Knight, 2015). Atwal and Caldwell (2005) reported that poor interactions and communication among team members affect the quality of service provided to clients. Therefore, a clear identity and a practice process that understands and approaches the client's perspective should be premised. In addition, a follow-up study is needed to analyze factors that impede interaction and communication among team members that can negatively affect the reliable service execution of OTs, and factors that cause conflicts and ambiguity about the roles between experts.

Factor D, solving client needs emphasized the service provider based on the interaction with the client rather than the priorly structured program planned by the service provider. This was particularly emphasized in occupational therapy (World Federation of Occupational Therapists, 2012). The practice of skilled OTs who respect and approach the client's characteristics, equivalents, and originality enables spontaneous participation in daily life activities that were not experienced after having a disability (Minami & Kobayashi, 2019). In a study reported in 2006, clients have a roles in a cooperative relationship in the client-centered practice's approach of OTs, but it has been reported that their awareness of this is low (Maitra & Erway, 2006). Recently, a positive effect has been reported in a study when active client-centered intervention was conducted during the goal setting and planning phase (Nielsen et al., 2019). Therefore, more interest should be taken in the strategic and roles performance of OTs to ensure clients' more active participation in the process of counseling and communication with clients and the rehabilitation process.

The factor E of focus on activity participation placed importance on the core role that directly observed and intervened in the client's daily life activities, leisure, and social participation in the clinical setting. This appeared in the form of the perspectives that occupational therapy is involved in an individual's independence in daily activities and his/her difficulties in occupations (McCormack, 1997). In South Korea, since home-based rehabilitation is provided as health promotion services by public institutions, it is considered that the clinical practice of various settings are different according to the needs of clients which have to be addressed individually (National Rehabilitation Center, 2012). Moreover, activities and participation are built from habits within an individual identity and inherent meaning, in the individual's occupations (Luebben & Royeen, 2007).

The role of OTs in the client's home was found to focus on the client's involvement in performing daily activities and living fully as family members. However, given how the focus is on daily activities at home rather than promoting their social participation, it may not satisfy expectations (Atwal et al., 2014). Therefore, it may be necessary to cooperate with other specialist areas to actively utilize community resources rather than the independent roles performance of the OTs (Littlechild et al., 2010). In an interdisciplinary team, continuous efforts to understand and respect the roles of team members are required to improve team efficiency and cooperation quality (Sargeant et al., 2008). Home-based rehabilitation team competencies in each country and community may differ depending on various socio-cultural backgrounds, but clinical environment creation, knowledge, and practice should be emphasized to understand each other's roles and solve given situations and problems. It was confirmed that the Q-methodology applied in this study was useful to find out the interdisciplinary team efficiency in a work setting where a plan can be identified to increase the cooperation among the team. Various perspectives on the role of OTs within the home-based rehabilitation team have been identified, although they were diversify and flexible, it is necessary to continue to strengthen the identity and role of OTs with a focus on overcoming the identified factors.

The limitation of this study is that it is difficult to generalize the results as an exploratory study using Q-methodology. The P-samples of 10 persons not included in the factor may form different awareness, which indicates that the five factors of awareness have limitations that cannot fully represent the role of OTs in home-based occupational therapy. However, this study has benefits in that the subjective of team members reflecting the situation and context of actual home-based rehabilitation team experts was identified and the meaning thereof was interpreted.

Conclusion

This study explored using the Q-methodology to understand the perspectives of team members on the role of OT in home-based rehabilitation teams. OTs were confirmed to be involved in the home-based rehabilitation team to promote independence in the occupations in which the identity of the client is inherent, and to adapt to and safely stay in the home environment familiar to the individual. This study can be used as reference material for research that discusses and seeks practical directions for future clear work scope and guidelines, guideline development, and strengthening cooperation among team members. In addition, to contribute to the team with a clear role in the interdisciplinary team, efforts should be made together to establish the identity of the professional area and to strengthen the teamwork competency.

Declaration of conflicting interests

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Ethical approval

This study was approved by the bioethics review committee and the research was conducted (KYU-2020-004-01).

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Supplemental Material

Supplemental material for this article is available online.

References

American Occupational Therapy Association (2020). Occupational therapy practice frame work: Domain and process(4th ed.). *American Journal of Occupational Therapy*, *74*(Suppl. 2), 7412410010. https://doi.org/10.5014/ajot.2020.74S2001

Atwal, A., & Caldwell, K (2005). Do all health and social care professionals interact equally: A study of interactions in

multidisciplinary teams in the United Kingdom. *Scandinavian Journal of Caring Sciences*, *19*(3), 268–273. https://doi.org/10.1111/j.1471-6712.2005.00338.x

Atwal, A., Spiliotopoulou, G., Stradden, J., Fellows, V., Anako, E., Robinson, L., & McIntyre, A (2014). Factors influencing occupational therapy home visit practice: A qualitative study. *Scandinavian Journal of Occupational Therapy*, *21*(1), 40–47. https://doi.org/10.3109/11038128.2013.821162

Barnes, M. P., & Radermacher, H (2003). *Community rehabilitation in neurology*. Cambridge University Press.

Birkeland, A., Tuntland, H., Førland, O., Jakobsen, F. F., & Langeland, E (2017). Interdisciplinary collaboration in reablement–a qualitative study. *Journal of Multidisciplinary Healthcare*, *2017*(10), 195. https://doi.org/10.2147/JMDH.S133417

Bridge, C., Phibbs, P., Kendig, H., Mathews, M., & Bartlett, H (2006). *The costs and benefits of using Private Housing as the 'home Base'for care for Older people: A systematic review*. Sydney: Australian Housing and Urban Research Institute.

Brown, S. R (1980). Political subjectivity: Applications of Q methodology in political science. *New haven and London*. Yale University.

Cheung, S. K. I (2013). *How do health professionals' Perceptions of the roles of occupational therapists affect occupational therapy practice in Interprofessional home health teams?* degree of Master. Halifax, Nova Scotia: Dalhousie University.

Choi, H. S., Kang, H. G., Jung, M. Y., Jung, W. S., Chae, Y. M., & Ji, Y. G (2007). A cost-benefit analysis on home-based occupational therapy for stroke patients. *Journal of Korean Society of Occupational Therapy*, *15*(2), 13–24. http://db.koreascholar.com/article.aspx?code=376553

CoCroker, A (2011). *Collaboration in rehabilitation teams*. Australia. Charles Sturt University.

EkFearon, P., Langhorne, P., & Trialists, E. S. D (2012). Services for reducing duration of hospital care for acute stroke patients. *Cochrane database of systematic reviews*, *2*(9). https://doi.org/10.1002/14651858.CD000443.pub3

Fewster-Thuente, L., & Velsor-Friedrich, B. (2008). Interdisciplinary collaboration for healthcare professionals. *Nursing administration quarterly*, *32*(1), 40–48. 10.1097/01.NAQ.0000305946.31193.61

Franz, S., Muser, J., Thielhorn, U., Wallesch, C. W., & Behrens, J (2020). Inter-professional communication and interaction in the neurological rehabilitation team: A literature review. *Disability and Rehabilitation*, *42*(11), 1607–1615. https://doi.org/10.1080/09638288.2018.1528634

Fruchter, B (1954). *Introduction to factor analysis*. Princeton: N.J.Van Nostrand.

Glickman, L., Neely, L., Warres, M., Walters, E., White, N., & Chimatiro, G (2015). Community reintegration of clients post discharge from the Kachere rehabilitation centre Malawi. *Physiotherapy*, *101*(Supplement 1), Article e455–e456. https://doi.org/10.1016/j.physio.2015.03.3240

Hall, R. H (1968). Professionalization and bureaucratization. *American sociological review*, *33*(1), 92–104. https://doi.org/10.2307/2092242

Hjelle, K. M., Skutle, O., Alvsvåg, H., & Førland, O (2018). Reablement teams' roles: A qualitative study of interdisciplinary teams' experiences. *Journal of Multidisciplinary Healthcare*, *11*, 305. https://doi.org/ 10.2147/JMDH.S160480

Hooper, B., Krishnagiri, S., Price, M. P., Bilics, A. R., Taff, S. D., & Mitcham, M. D. (2014). Value and challenges of research on health professions' core subjects in education. *Journal of Allied Health*, *43*(4), 187–193. https://www.ingentaconnect.com/contentone/asahp/jah/2014/00000043/00000004/art00003

Hong, S. Y (2019). Awareness of the job task importance and performance of occupational therapists in the Elderly community care system. *The Journal of Korean Society of Community Based Occupational Therapy*, *9*(3), 11–19. https://doi.org/ 10.18598/kcbot.2019.9.3.02

Ikiugu, M. N., & Rosso, H. M (2003). Facilitating professional identity in occupational therapy students. *Occupational Therapy International*, *10*(3), 206–225. https://doi.org/10.1002/oti.186

Kaiser, H. F (1970). A second generation little jiffy. *Psychometrika*, *35*(4), 401–415. https://doi.org/10.1007/BF02291817

Kang, E. J (2013). Understanding Intersectoral collaboration in health promotion. *Korean Society for Health Education and Promotion*, *30*(4), 17–24. https://doi.org/ 10.14367/kjhep.2013.30.4.017

Kim, B. S., & Kim, D. J (2019). A study of home-based rehabilitation programs for patients with Chronic stroke. *Korean Aging Friendly Industry Association*, *11*(2), 123–134. https://doi.org/10.34264/jkafa.2019.11.2.123

Kim, H. K (2008). *Q methodology: Philosophy, Theories, analysis, and Application*. Seoul: CommunicationBooks.

Kim, S. E (2016). *Q methodology & social sciences*. Seoul: CMPress.

Kline, P (1994). *An easy guide to factor analysis*. London: Routledge.

Lee, H. S., Chang, K. Y., Jung, M. Y., Ku, I. S., & Woo, H. S (2014). Job analysis of occupational therapists for 2013. *The Journal of Korean Society of Occupational Therapy*, *22*(22), 89–112. https://doi.org/10.14519/jksot.2014.22.2.07

Littlechild, R., Bowl, R., & Matka, E (2010). An independence at home service: The potential and the pitfalls for occupational therapy services. *British Journal of Occupational Therapy*, *73*(6), 242–250. https://doi.org/10.4276/030802210X12759925468862

Luebben, A. J., & Royeen, C. B (2007). Toward Verstehen: An Etymological and Historical Wave of the terms Habit, Routine, Occupation, and Participation. *OTJR*, *27*(-1_Supplement), 86S–87S. https://doi.org/ 10.1177/15394492070270s115

Macdonald, E., Herrman, H., Farhall, J., McGorry, P., Renouf, N., & Stevenson, B (1998). Conditions necessary for best practice in interdisciplinary teamwork. *Australasian Psychiatry*, *6*(5), 257–259. https://doi.org/ 10.3109/10398569809084857

Maitra, K. K., & Erway, F (2006). Perception of client-centered practice in occupational therapists and their clients. *American Journal of Occupational Therapy*, *60*(3), 298–310. https://doi.org/10.5014/ajot.60.3.298

McCormack, G. L. (1997). The role of occupational therapy in home care. *Home care provider*, *2*(1), 19–21. https://doi.org/10.1016/s1084-628x(97)90008-3

Minami, S., & Kobayashi, R (2019). A qualitative study on the practice structure of home-based occupational therapy for the Realisation of daily living activities in the Elderly: Promoting Co-Operative Construction of the life performance. *Asian Journal of Occupational Therapy*, *15*(1), 19–25. https://doi.org/10.11596/asiajot.15.19

National Rehabilitation Center (2012). *2012 Community based rehabilitation health center business plan*. Seoul: Ministry of Health and Welfare.

Nielsen, T. L., Andersen, N. T., Petersen, K. S., Polatajko, H., & Nielsen, C. V (2019). Intensive client-centred occupational therapy in the home improves older adults' occupational performance. Results from a Danish randomized controlled trial. *Scandinavian Journal of Occupational Therapy*, *26*(5), 325–342. https://doi.org/10.1080/11038128.2018.1424236

O'Dowd, J., MacLachlan, M., & Geiser, P (2015). Towards a core set of clinical skills for health-related community based rehabilitation in low and middle income countries. *Disability, CBR & Inclusive Development*, *26*(3), 5–43. https://doi.org/10.5463/dcid.v26i3.449

Portnow, J., Kline, T., Daly, M. A., Peltier, S. M., Chin, C., & Miller, J. R (1991). Multidisciplinary home rehabilitation: A practical model. *Clinics in Geriatric Medicine*, *7*(4), 695–706. https://doi.org/10.1016/s0749-0690(18)30514-7

Pruneddu, A (2016). *[Website]. Q-sorTouch (computer sortware program). Q-sorTouch*. Manchester, UK. Retrieved from https://qsortouch.com/#/. (accessed 2020, Feb 22).

Quick, L., Harman, S., Morgan, S., & Stagnitti, K (2010). Scope of practice of occupational therapists working in Victorian community health settings. *Australian Occupational Therapy Journal*, *57*(2), 95–101. https://doi.org/ 10.1111/j.1440-1630.2009.00827.x

Rexe, K., Lammi, B. M., & von Zweck, C (2013). Occupational therapy: Cost-effective solutions for changing health system needs. *Healthcare Quarterly*, *16*(1), 69–75. https://doi.org/10.12927/hcq.2013.23329

Romli, M. H., Mackenzie, L., Tan, M. P., Lovarini, M., & Clemson, L (2017). The experience of Malaysian occupational therapists in conducting home assessments and home visits with older clients. *Malaysian Journal of Medicine and Health Sciences*, *13*(1), 17–25. https://medic.upm.edu.my/jurnal_kami/penerbitan/mjmhs_vol13_no1_jan_2017-33671

Sargeant, J., Loney, E., & Murphy, G (2008). Effective interprofessional teams:"contact is not enough" to build a team. *Journal of Continuing Education in the Health Professions*, *28*(4), 228–234. https://doi.org/10.1002/chp.189

Schmolck, P (2016). *PQ method (Version 2.35). Computer Software: Neubiberg*. University of the Bundeswehr Munich. 2002. Retrieved from http://schmolck.org/qmethod/#links (accessed 2020, Apr 28).

Singh, R., Küçükdeveci, A. A., Grabljevec, K., & Gray, A (2018). The role of interdisciplinary teams in physical and rehabilitation medicine. *Journal of Rehabilitation Medicine*, *50*(8), 673–678. https://doi.org/10.2340/16501977-2364

Tijsen, L. M., Derksen, E. W., Achterberg, W. P., & Buijck, B. I (2019). Challenging rehabilitation environment for older patients. *Clinical Interventions in Aging*, *14*, 1451.

Toto, P. E (2006). Success through teamwork in the home health setting: The role of occupational therapy. *Home Health Care Management & Practice*, *19*(1), 31–37. https://doi.org/ 10.1177/1084822306292230

Turcotte, P. L., Carrier, A., & Levasseur, M (2019). Community-based participatory research remodelling occupational therapy to foster older adults' social participation. *Canadian Journal of Occupational Therapy*, *86*(4), 262–276. https://doi.org/ 10.1177/0008417419832338

Turner, A., & Knight, J (2015). A debate on the professional identity of occupational therapists. *British Journal of Occupational Therapy*, *78*(11), 664–673. https://doi.org/ 10.1177/0308022615601439

White, M. J., Gutierrez, A., McLaughlin, C., Eziakonwa, C., Newman, L. S., White, M., & Asselin, G (2013). A pilot for understanding interdisciplinary teams in rehabilitation practice. *Rehabilitation Nursing*, *38*(3), 142–152. https://doi.org/10.1002/rnj.75

Wong, C., Martinez, J., & Leland, N (2017). Occupational therapy Practitioners' role in Postacute care community transition. *American Journal of Occupational Therapy*, *71*(4_Supplement_1), 7111510188p. https://doi.org/10.5014/ajot.2017.71S1-PO3149

World Federation of Occupational Therapists (2012). *[Website] about occupational therapy*. Retrieved from https://www.wfot.org/about/about-occupational-therapy (accessed 2020, Jul 1).