



Parents' and teachers' perceptions of speech language rehabilitation and demands for the use of treatment-related apps

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Purpose: This study examined the need for speech language rehabilitation awareness and the use of therapeutic-related apps among parents and teachers living on a remote island.

Methods: A questionnaire survey was conducted among 121 parents and 100 teachers living on a remote island.

Results: This study aimed to examine the needs of remote island parents and teachers for speech language rehabilitation awareness and the use of therapeutic apps. As a result of examining the level of awareness on the need for speech language rehabilitation, 59.5% that they needed treatment. In the case of teachers, 78% chose "Yes,".

Conclusions: As a result of investigating the speech language rehabilitation awareness and usage status of parents and teachers, 57.9% "required" the treatment. Teachers were "well aware" of the need for speech language rehabilitation." As for the route of knowing speech language rehabilitation, "education and training" was the highest with 52 (52%). Delayed overall receptive and expressive speech language received the highest score (71 people) in terms of speech language rehabilitation reasons, while the biggest problem was considered unclear pronunciation based on 73 people. The possibility of collaboration with a therapist was deemed "necessary" based on a majority of 93 people said that they wanted to help. Secondly, as a result of investigating whether or not parents and teachers could use apps related to treatment and the actual situation, 12 parents (9.9%) had an experience using speech language rehabilitation-related apps. Thirdly, after examining the needs and differences between the parents' and teachers' therapeutic apps, monitoring (61.2%), word sentences (56.2%), video (52.1%), respiration (49.1%), animation (47.9%), and lecture (43.8%) were selected in order. Teacher therapy app requirements appeared in descending order of monitoring (59%), word sentences (53%), video content (46%), and quantitative information provision (44%). Parents and teachers expressed that word sentences, surveillance, and video content were essential.

Keywords: Parents' and Teachers' Perceptions, Parents' Perceptions, Teachers' Perceptions, Treatment-Related Apps, Survey



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INTRODUCTION

Most people use speech-language as a tool of communication. Speech-language use ability is crucial for smooth communication and represents an individual's knowledge and cognitive level [1]. Chomsky said that speech language ability is performing speech-languages that combine grammar, vocabulary, or sentence components to understand and produce speech-languages [2]. Individuals have particular differences in

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speech-language ability, and when speech-language ability is delayed, they experience difficulty in daily and social life. Speech language rehabilitation or therapy is used to narrow these individual differences in verbal communication skills. However, to receive consistent speech language rehabilitation, time and conditions must be allowed, but it is difficult for students living on island areas and remote areas to receive speech language rehabilitation.

Island area and remote area mean an area, such as a mountainous area or a remote island, which does not receive geographical, economic, cultural and social benefits, as defined by the Ordinance of the Ministry of Education (Ministry of Education Island Wallpaper Education Promotion Act) [3]. Looking at the peculiarities of the island area and remote area from the geographical, social, and personal aspects, this study found them lacking in terms of various benefits, restrictions on mobility due to weather and weather conditions, and the social encumbrances of COVID-19. Additionally, living on an island far from another land means a situation in which one has to travel for a day to receive speech language rehabilitation [4]. In the case of children living on a remote island, there is a pattern in which the family lives on an island and then on land to receive speech language rehabilitation [5].

This paper examined previous research on the perceptions or needs of parents and teachers of education and rehabilitation to examine the perceptions and needs of parents and teachers of speech language rehabilitation eligible children living on remote islands [4-14].

In order to investigate the need and demand for the speech language rehabilitation of parents and teachers who live on a remote island, this study surveyed teachers and parents through a questionnaire. The specific problems are as follows.

- 1) What are the parents' and teachers' perceptions of the need and use of treatment on remote islands?
- 2) How are parents and teachers using treatment-related apps on remote islands?
- 3) What is the extent of and difference between parents' and teachers' needs for therapy-related apps on remote islands?

METHODS

Subject

This study was conducted on 121 parents (41 fathers, 80 mothers) and 100 teachers (28 men, 72 women) living in a district. The specific information of the study subjects is shown in Table 1.

Table 1. General information on research subjects

Division	Classification	Frequency (persons)	Ratio	
Parent (n=121)	Gender	Male	41	33.9
		Female	80	66.1
	Education (n=121)	Less than middle school	1	0.8
		High school graduate	39	32.2
		College Graduate	47	38.8
		4-year degree	28	23.1
	Postgraduate or above	6	5.0	
Teachers (n=100)	Gender	Male	28	28.0
		Female	72	72.0
	Education (n=100)	College Graduate	83	83.0
		Graduate Master's	15	15.0
		Postgraduate Doctorate	2	2.0

Research Tool

A questionnaire was prepared to examine the perceptions and demands for speech language rehabilitation among parents and teachers of infants and school-aged children living on remote islands. The contents of the questionnaire were reconstructed concerning the materials of Hong and Lee [15] and Yang [12]. This study also created separate questionnaires for parents and teachers.

Of the 13 questions regarding the status and necessity of the treatment app, it consisted of 1 question regarding whether the app can be used, 4 questions regarding the app's state to be used, and 8 questions related to content development (Table 2).

The teachers' questionnaire included 6 general questions, 8 about perceptions and practices of speech language rehabilitation, 5 about current treatment services, and 2 about perceptions of speech language rehabilitation services. It consisted of 13 questions regarding the conditions and requirements regarding treatment (1 question on whether the app can be used, 4 questions on the actual status of the app used, and 8 questions on whether content is necessary) (Table 3).

A questionnaire for parents included those who received a period of use and inconveniences during use, while the questionnaire for teachers included opinions on difficulties in class and connection with speech language rehabilitation history.

Research procedures

The questionnaire was distributed to parents and teachers at 10 kindergartens, 10 elementary schools, 5 junior high schools, and 3 high schools in W-district within a remote island, and

Table 2. Composition of a questionnaire for parents

Area	Contents	Questions
General	Other than gender	6
	General issues about treatment for children	3
Recognition and us age status	Whether treatment service is recognized	2
	Rumors regarding application status	9
Conditions and needs of treatment apps	Whether to use the app	1
	Status of apps used	4
	Content necessity	8

Table 3. Questionnaire Composition

Area	Contents	Questions
General	Gender, Age, Education, Experience, Class Type, Major	6
Matters related to the status of recognition and use	Whether treatment service is recognized	5
	Speech language therapist connection	1
	Questions on whether speech language rehabilitation services are recognized	2
Conditions and requirements related to the treatment app	Whether to use the app	1
	Rumors about the actual condition of the app used	4
	Questions on whether content is necessary	8

the collected questionnaires were 121 for parents and 100 for teachers.

Data processing

Data collected in this study were analyzed using IBM SPSS Statistics 28.0, and frequency analyses were performed for common items, app usage, and treatment status.

RESULTS

This study aimed to examine the needs of remote island parents and teachers for speech language rehabilitation awareness and the use of therapeutic apps. Research results for this purpose are as follows:

Parents' and teachers' awareness of the need for treatment and actual use on a remote island

As a result of examining the level of awareness on the need for speech language rehabilitation, 72 (59.5%) of 121 parents, 48 (66.7%) fathers, and 24 (33.3%) mothers responded that they

Table 4. Parents' and teachers' awareness of the need for treatment on the remote island

Division	Classification	Frequency (persons)	Ratio	
Parents	Treatment for the child (n=121)	Yes	72	59.5
		No	49	40.5
	Child gender (n=72)	Male	48	66.7
		Female	24	33.3
	Age of children needing treatment (n=72)	4, 5, 6, 7 year old	38	52.8
		Elementary school	16	22.2
		Elementary and high school	10	13.9
Middle school		4	5.6	
High school to 20's		4	5.6	
Teachers	Speech therapy (n=100)	Yes	78	78.0
		No	13	13.0
		I am not sure	9	9.0

needed treatment. In the case of teachers, 78 (78%) chose "Yes," 13 (13%) picked "No," and 9 selected (9%) "Not sure" (Table 4).

As a result of the survey on the recognition and usage of speech language therapy, 70 parents (57.9%) recognized the need for speech language rehabilitation, while 59 (48%) received treatment.

In a multiple-answer question about the type of service used, 42 people (60.9%) indicated the developmental rehabilitation service provided by the Ministry of Health and Welfare, which received the highest score (Table 5).

In the case of teachers, 35 people (35%) were "well aware" of the need for speech language rehabilitation, 59 people (59%) "had heard of it," and 6 people (6%) had heard of it for the first time. Seventy-eight people (78%) who had a child in need of speech language rehabilitation and 52 people (52%) who learned about speech language rehabilitation were found to have the highest level of "education and training" (Table 6).

According to a survey of teachers on their level of perception on speech language rehabilitation, 71 (71%) thought that children needed to receive speech language rehabilitation due to delayed overall receptive and expressive language, while 73 (73%) said that some children were difficult to understand due to unclear pronunciation. Ninety-three people (93%) said that they needed cooperation with a therapist, and 45 people (45%) said that they wanted to help them (Table 7).

Table 5. Parents' recognition of speech language rehabilitation and use of speech language rehabilitation

Division	Classification	Frequency (persons)	Ratio
Recognition (n=121)	Yes	70	57.9
	No	51	42.1
Use (n=121)	Yes	59	48.8
	No	62	51.2
Speech language rehabilitation services (n=59) (Multiple responses possible)	Ministry of Education Treatment Support	13	18.8
	Ministry of Health and Welfare Development Service	42	60.9
	Welfare center use	10	14.5
	Local investment business	4	5.8
Number of times (n=62)	Twice a month	1	1.75
	Once a week	12	12.1
	Twice a week	30	52.6
	3 times a week	14	24.6
	4 or more times a week	2	3.5
Service type (n=59)	1:1 Individual	56	94.9
	Small groups	3	5.1
Transportation (n=59)	Walk	5	8.5
	Private car	43	72.9
	Bus	7	11.9
	Taxi	1	1.7
	Others	3	5.1
Travel time (n=59)	20 minutes	26	43.3
	20 to 40 minutes	21	35
	40 to 4 hours	9	15
	1 hour	4	6.7
Cost (won, n=50)	100,000	8	16
	110,000 – 220,000	20	40
	230,000 – 340,000	18	36
	350,000 – 490,000	7	14
	500,000 or more	5	10
Known path (n=60)	Educational institutions	15	25
	Introduction of acquaintances	23	38.3
	Mass Media	5	8.3
	Treatment room promotion	4	6.3
	Introduction of other organizations	13	21.7

Table 6. Speech language rehabilitation recognition and use status of teachers

Division	Classification	Frequency (persons)	Ratio
Recognition of treatment (n=100)	Well aware	35	35.0
	Never heard of	59	59.0
	First heard of	6	6.0
Children who need speech therapy (n=100)	Has to exist	78	78.0
	Does not exist	13	13.0
	Not sure	9	9.0
Known path (n=100)	Education and training	52	52.0
	Mass media	6	6.0
	Indirect or object experience	28	28.0
	Etc.	14	14.0

Table 7. Investigation of teachers' recognition level of speech language rehabilitation

Division	Classification	Frequency (persons)	Ratio
Reasons for speech therapy (n=100) (Multiple responses possible)	Delayed overall receptive and expressive language	71	71.0
	Pronunciation problem	66	66.0
	Stuttering problem	27	27.0
	Conversation (communication) difficulties	55	55.0
	Language disorder	34	34.0
Difficulty in class (n=100) (Multiple responses possible)	Etc.	7	7.0
	Pronunciation problem	73	73.0
	Stuttering problem	8	8.0
	Problems with understanding and expression	63	63.0
	Conversation (communication) difficulties	31	31.0
Whether or not to connect with a speech therapist (n=100)	Problems with learning to read and write	30	30.0
	Etc.	9	9.0
	Necessary	93	93.0
	Unnecessary	1	1.0
	Not sure	6	6.0
Reason for connection (n=100)	To understand well	28	28.0
	I want to help	45	45.0
	Learning problem	19	19.0
	Etc.	8	8.0

Table 8. Usage of treatment-related apps

Division	Classification	Frequency (persons)	Ratio	
Parents (n=12)	Use of treatment-related apps (n=121)	Yes	12	9.9
		No	109	90.1
	Type of app used (n=12)	Multimedia (video, fairy tale, nursery rhyme, game, etc.)	6	50
		Parent education (parent education lecture)	3	25
		Communication aids (communication aid apps such as voice output)	3	25
Teachers	Use of treatment-related apps (n=100)	Yes	10	10
		No	90	90
	Type of app used (n=10)	Multimedia (video, fairy tale, nursery rhyme, game, etc.)	7	70
		Parent education (parent education lecture)	2	20
		Communication aids (communication aid apps such as voice output)	1	10

The actual use of treatment-related apps by parents and teachers on a remote island

When this study investigated the usage and actual situation of apps related to the treatment of remote island parents and teachers, 12 (9.9%) parents had to experience using speech language rehabilitation-related apps, and 109 (90.1) had no experience. There were 6 out of 12 parents who had used apps employing “multimedia” (videos, fairy tales, nursery rhymes, etc.), and 3 people chose “parent education” (parent education lecture). In the case of teachers, 10 had an experience using it, and 90 had no experience.

The result of asking 10 teachers who had an experience using apps showed that 7 opted for “multimedia” (videos, fairy tales, upsets, etc.), followed by 2 for communication aids and 1 for parent education (Table 8).

The degree and difference between parents' and teachers' treatment-related application needs on a remote island

As a result of researching the need for therapeutic apps among parents on remote islands, there was an opinion that monitoring (61.2%), word sentences (56.2%), video (52.1%), respiration (49.1%), animation (47.9%), and lecture (43.8%) were necessary. Teachers' requirements for therapeutic apps were monitoring (59%), word sentences (53%), video content (46%), and quantitative information provision (44%) (Table 9).

Both parents and teachers expressed their opinions that apps were vital for word sentence content, monitoring content, and video content.

In addition, parents preferred rehabilitation, such as animation, lectures, and respiratory development, while teachers showed a difference in opinion that quantitative information was needed.

DISCUSSION

This study examined the requirements for speech language rehabilitation recognition and the use of treatment-related apps for parents and teachers in the W-district within a remote island to help them do effective rehabilitation.

First, this study examined parents' and teachers' recognition and use of speech language rehabilitation on remote islands.

In the case of parents, 70 people (57.9%) “needed treatment,” 70 people (57.9%) “used treatment,” and 42 people chose the “developmental rehabilitation services of the Ministry of Health and Welfare” for multiple answers asking about services used (60.9%).

In the case of teachers, 35 people (35%) know well about the need for speech language rehabilitation, and 59 people (59%) “have heard of it.”

Fifty-two people (52%) chose “education and training” as the route through which they learned about speech language rehabilitation. Also, to the question (multiple answers possible) about what problems students who received speech therapy had, 71 teachers (71%) chose general acceptance and expression speech language delay. The most significant problem in class and school is unclear pronunciation, according to 73 people (73%). The possibility of collaboration with a therapist was “necessary,” according to 93 people (93%), whereas 45 people (45%) said that they wanted to help.

Second, this study investigated the usage and actual situation of apps related to the treatment of parents and teachers on a remote island.

Twelve parents (9.9%) said that they had an experience using speech language rehabilitation-related apps, and the most

Table 9. Demand for apps for teachers' and parents' therapy

Division	Parent (n = 121)		Teacher (n = 100)	
Animation format content	No need at all	0	No need at all	0
	Not needed	2.5	Not needed	4
	Usually	8.3	Usually	9
	Needed	41.3	Need	47
	Highly needed	47.9	Very needed	40
Lecture content	No need at all	0	No need at all	2
	Not needed	1.7	Not needed	1
	Usually	14	Usually	24
	Needed	40.5	Need	41
	Highly needed	43.8	Very needed	32
Theory and technical documentation content	No need at all	0.5	No need at all	1
	Not needed	2.8	Not needed	7
	Usually	24	Usually	16
	Needed	38	Need	43
	Highly needed	34.7	Very needed	33
Provide quantitative information	No need at all	0	No need at all	0
	Not needed	2.1	Not needed	1
	Usually	10.7	Usually	12
	Needed	45.5	Need	43
	Highly needed	42.1	Very needed	44
Respiratory vocal rehabilitation content	No need at all	0	No need at all	0
	Not needed	0.9	Not needed	0
	Usually	7.4	Usually	6
	Needed	42.1	Need	48
	Highly needed	49.6	Very needed	46
Word sentence content	No need at all	0	No need at all	0
	Not needed	0	Not needed	0
	Usually	2.5	Usually	5
	Needed	41.3	Need	42
	Highly needed	56.2	Very needed	53
Monitoring content	No need at all	0	No need at all	0
	Not needed	0	Not needed	0
	Usually	4.1	Usually	6
	Needed	34.7	Need	35
	Highly needed	61.2	Very needed	59
Video content	No need at all	0	No need at all	0
	Not needed	1.6	Not needed	0
	Usually	8.3	Usually	11
	Needed	38	Need	43
	Highly needed	52.1	Very needed	46

common type of app used was “multimedia” (videos, fairy tales, upheavals, etc.).

In the case of teachers, 90 teachers (90%) said that they had never used speech language rehabilitation-related apps. Among those who used an app, “multimedia” (videos, fairy tales, upheaval, etc.) was chiefly used.

Third, the results of examining the needs and differences between therapeutic apps for parents and teachers on remote islands showed monitoring (61.2%), word sentences (56.2%), images (52.1%), respiration (49.1%), and animation (47.9%) followed by a lecture (43.8%). Teachers' requirements for therapeutic apps were monitoring (59%), word sentences (53%), video content (46%), and quantitative information provision (44%), and both parents and teachers showed that they were vital for word sentence content, monitoring content, and video content.

This study found that parents and teachers were mostly aware of the need for speech language rehabilitation, similar to Lee [16].

Parents complained of difficulties in using the treatment room and economic difficulties, while teachers complained of difficulties in communication due to incorrect pronunciation in school. Also, due to the geographic and social characteristics of a remote island and parents' opinion that they wanted students to receive speech therapy or special education at school, teachers also wanted to connect with a speech language therapist to help students.

In response to the need for a therapeutic app, the parents said that using the app was good, but face-to-face treatment was necessary to consider valid articulatory points and oral massage and address the problem of concentration. There was another opinion that a well-made program was necessary.

In future studies, systematic research should be conducted based on a specific analysis of app utilization, while follow-up research is necessary to expand the population and render generalizations possible.

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