REVISTA CEFAC
SPEECH, LANGUAGE, HEARING SCIENCES AND EDUCATION JOURNAL

Brief communication

Speech-language teletherapy practice: perceptions of Brazilian speech-language-hearing therapists

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ABSTRACT

Purpose: to verify Brazilian speech-language-hearing therapists' perception of speech-language teletherapy.

Methods: a qualitative/quantitative cross-sectional study. The 22 participants answered an online questionnaire on sociodemographic information, academic degree, occupation, and teletherapy experience. Absolute and relative frequencies in scale and multiple-choice answers were calculated, whereas the content of qualitative data was analyzed.

Results: the mean age of the speech-language-hearing therapists was 28 years; 86.4% were females, and 63.3% graduated from public institutions. All participants (100%) reported knowing the guidelines prescribed by the Federal Speech-Language-Hearing Council. Most of them treated children (77.3%), with oral language procedures (54.5%); 59.1% faced difficulties, while 63.7% felt qualified to practice teletherapy.

Conclusion: all participants said they knew speech-language teletherapy. Most of them reported that the topic was not addressed in their undergraduate studies; hence, they sought training from other sources to offer teleconsultation. Moreover, they reported that most patients agreed to continue with that type of care, although the number of new patients seeking treatment during the pandemic decreased.

Keywords: Speech, Language and Hearing Sciences; Remote Consultation; Telemonitoring; Telerehabilitation; Teletherapy

INTRODUCTION

In 2020, during the COVID-19 health crisis and social isolation, the Good Speech-Language Teletherapy Practice Guidelines were published. They reinforced the need for ethical and professional commitment and highlighted that the technology used in such practice should ensure the privacy and safety of both clients and their data. Speech-language teletherapy activity models were suggested, emphasizing that remote practices should be as efficacious, effective, and equivalent as in-person services[1].

The new scenario in speech-language-hearing (SLH) practice was hastened by social isolation, but the use of technology in telehealth will possibly be part of professional activity shortly. Hence, they will not only meet the needs imposed by pandemics but also be a strategy to increase SLH service availability[2]. Speech-language teletherapy has already proved to be a satisfactory tool to overcome adversities and reorganize health services provided[3] during the COVID-19 pandemic.

Clinical healthcare involves two main participants: SLH therapists and their clients – thus, speech-language teletherapy must be studied from both perspectives. Constructing scientific evidence on how professionals who worked with teleconsultation view this clinical model is essential to discuss its benefits and fragilities.

Hence, this study aimed at verifying Brazilian SLH therapists' perception of speech-language teletherapy.

METHODS

The study followed the guidelines of the Brazilian National Health Council Resolution no. 466, of December 12, 2012, and was approved by the Ethics Committee of the Clinics Hospital of Ribeirão Preto (HCFMRP/USP), Brazil, under number 4.940.466. All volunteers electronically signed an informed consent form.

This is a qualitative/quantitative descriptive cross-sectional study. A total of 22 SLH therapists who had worked or were working with remote (online) care participated in the research.

The inclusion criteria were as follows: having a degree in SLH Sciences, being actively registered in the Regional SLH Council (CREFONO), working or having worked with teleconsultation during the COVID-19 pandemic, and agreeing with and signing the informed consent form. The only exclusion criterion was not answering all questions in the instrument.

The questionnaire used in this research was adapted from a previous one with the same focus[4] and was divided into three parts: I) sociodemographic data; II) academic degree and occupation; III) perception of speech-language teletherapy. The questions in the third part were specifically developed to survey information on the SLH therapists' knowledge about good practices and perception of teleconsultation, including the type of platform they used and the difficulties and easiness they found when working in a virtual environment. Volunteers were invited via institutional media, social networks, and a message application (WhatsApp) – which is a quick wide-reaching communication tool used by most people for being free and safe (end-to-end encrypted).

The online invitation had a link to Google Forms. Once potential participants clicked on it, they accessed an informed consent form; after registering their agreement to voluntarily participate in the research, they were redirected to the collection instrument. The research form remained open for answers for 60 days after it had been publicized, and it took about 20 minutes to answer.

Results were tabulated into an Excel spreadsheet (Microsoft® pack, 2019 version). In descriptive statistics, categorical data were calculated with absolute (n) and relative (%) frequency. Qualitative data – open-ended questions: "What do you believe you need to improve as a professional regarding online healthcare practices?", "What do patients report about speech-language teletherapy?", and "What contributions do you believe the Federal Speech-Language-Hearing Council (CFFa) can make to teleconsultation?" – underwent content analysis[5], in which the participants' answers were interpreted and grouped into categories according to their occurrence.

RESULTS

The participants' sociodemographic profiles are described in Table 1. Most of them were females, aged 20 to 30 years, and worked in cities in inland São Paulo.

Table 2 shows that most professionals obtained their Bachelor's degrees from public universities between 2011 and 2020, had a specialization degree, and worked with children in oral language.

Table 1. Descriptive analysis of research participants' sociodemographic data

Variables	n (22)	%
Sex		
Females	19	86.4
Males	3	13.6
Age		
20 - 30	11	50
31 - 40	8	36.4
41 - 50	3	13.6
Origin		
Inland São Paulo	15	68.2
São Paulo (capital)	2	9.1
Other Brazilian states	5	22.7
Municipality where they work		
Inland São Paulo	16	72.7
São Paulo (capital)	1	4.6
Other Brazilian states	5	22.7

Source: Research data.

Table 2. Descriptive analysis of data on research participants' academic training and occupation

Variables	n (22)	%
Speech-Language-Hearing Sciences degree		
Public higher education institutions	14	63.6
Private higher education institutions	8	36.4
Decade when the Bachelor's degree was obtained		
1990 - 2000	2	9.1
2001 - 2010	6	27.3
2011 - 2020	14	63.6
Highest postgraduate degree		
Did not study	5	20
Master's degree	6	26
Doctoral degree	2	16
Postdoctoral degree	1	3
Title of Specialist from the Federal Speech-Language-Hearing Council (CFFa)		
No	17	77.3
Yes	5	22.7
What specialization		
Language	5	35.8
OMF	3	21.5
Voice	1	7.1
Neuropsychology	1	7.1
Public Health	1	7.1
Hospital SLH	1	7.1
Others	2	14.3
Work setting		
Civil servant	2	9.1
Private company	13	59.1
Both public and private	7	31.8
Time in the profession		
1 year	2	9.1
2 years	4	18.2
3 years	2	9.1
4 years	2	9.1
5 or more years	12	54.5
Patients		
Children	17	77.3
Adolescents	2	9.1
Adults	1	4.5
Older adults	2	9.1
Field of work		
Oral language	12	54.6
Reading and writing	3	13.7
Speech	1	4.5
Voice	1	4.5
Dysphagia	1	4.5
OMF	1	4.5
Hearing disorders	3	13.7

Source: Research data.
Captions: SLH: speech-language-hearing; OMF: oral-motor function

Results regarding areas of SLH work in virtual environments and speech-language teletherapy practice are shown in Table 3. A relevant finding is that all participants claimed to know speech-language teletherapy. Most of them also said they did not have any contact with the topic in their undergraduate courses but sought training from other sources to conduct teleconsultations.

Table 3. Analysis of data on speech-language teletherapy reported by research participants

Variáveis	n (22)	%
Previous contact with speech-language teletherapy in undergraduate studies?		
Unsatisfactory	15	68.2
Little satisfactory	2	9.1
Moderately satisfactory	3	13.6
Very satisfactory	2	9.1
Extremely satisfactory	0	0
Previous knowledge of speech-language teletherapy?		
Yes	22	100
No	0	0
Area in which care was provided		
Assessment	10	45.5
Therapy	17	77.3
Family counseling	14	63.6
Educational counseling	5	22.7
Voice	3	13.6
Oral-motor function	7	31.8
Dysphagia	1	4.5
Audiology	1	4.5
Educational speech-language pathology	3	13.6
Sought training?		
Yes	11	50
No	11	50
Used CFFa guidelines?		
Yes	20	90.9
No	2	9.1
Time using teletherapy		
6 months	5	22.7
12 months	3	13.6
More than 12 months	14	63.7
Number of patients treated		
1 - 20	10	45.5
21 - 40	4	18.2
41 - 60	5	22.7
61 - 80	2	9.1
81 - 100	1	4.5
Model used		
Synchronous	14	63.7
Hybrid	7	31.8
Asynchronous	0	0
Automatic	0	0
Others	1	4.5
Platform used		
Zoom	6	27.6
Google Meet	7	31
Hi Talk	1	3.5
WhatsApp	2	10.3
Others	6	27.6

Variáveis	n (22)	%
The platform is:		
Paid	4	18.2
Free	16	72.7
Furnished by the institution where they work	2	9.1
Faced difficulties?		
Yes	13	59.1
No	9	40.9
Found easiness?		
Yes	13	59.1
No	9	40.9
Patients' acceptance		
Majority	14	63.7
Minority	7	31.8
All	1	4.5
None	0	0
Have new patients sought care?		
Yes	3	13.6
No	19	86.4
Types of patients who sought care		
Children and adolescents (parents/guardians)	13	59.1
Adults and older adults	7	31.8
None of the above	2	9.1
Was there nonadherence?		
Yes	9	40.9
No	4	18.2
Diminished therapy	9	40.9
Cases of nonadherence after going online		
0 - 5	9	40.9
6 - 10	6	27.6
11 - 20	5	22.4
There was no nonadherence	2	9.1
Does the professional's age influence online care?		
Yes	7	31.8
No	1	4.5
Maybe	14	63.7
Do you have electronic equipment to conduct speech-language teletherapy?		
Yes	20	90.9
No	2	9.1
Do you feel qualified to conduct speech-language teletherapy?		
Yes	14	63.7
No	2	9.1
Maybe	6	27.2

Source: Research data.
Caption: CFFa: Federal Speech-Language-Hearing Council

Chart 1 presents the participants' answers (analyzed and organized into groups) to the following open-ended questions: "What do you believe you need to improve as a professional regarding online healthcare practices?", "What do patients report about speech-language teletherapy?", and "What contributions do you believe the Federal Speech-Language-Hearing Council (CFFa) can make to teleconsultation?".

Chart 1. Data analysis of research participants' answers to open-ended questions

"What do you believe you need to improve as a professional regarding online healthcare practices?"	
I- Online platform use *"Handling more platforms (like "Zoom") and improving engagement strategies".* *"I need to improve the adaptation of protocols to the online format".*	**04 (18.2%)**
II- Clinical care strategies *"Preparing material to send them".*	**01 (4.5%)**
III- Speech-language teletherapy courses *"I must attend courses to train techniques".*	**01 (4.5%)**
"What do patients report about speech-language teletherapy?"	
I- Practical healthcare *"They like it because it's practical. For instance, an autist adolescent loves having treatment online because the patient doesn't really like going to crowded places, such as the clinic".* *"More practical and easier to adhere to the treatment because it is quick and easy to access".* *"They positively report the easiness to access and maintain the therapy".* *"They find it practical and say it saves them the time to go to the clinic".*	**14 (63.6%)**
II- Adherence and engagement difficulties *"Most patients didn't do the activities sent to them. There was little adherence".* *"My patients are children. But their parents/guardians complain they get tired because I ask them to be co-therapists".*	**06 (27.3%)**
III- Preference for the in-person model *"They prefer in-person care".*	**02 (9.1%)**
"What contributions do you believe the Federal Speech-Language-Hearing Council (CFFa) can make to teleconsultation?"	
I- Professional training *"Constantly offering short courses to instruct on the best online care practices".* *"Update courses based on new research on speech-language teletherapy".* *"Providing professional qualification and work strategies".*	**12 (54.5%)**
II- Indicating healthcare platforms *"Providing free platforms, software, and courses on the topic".* *"Developing new games and new strategies".*	**08 (36.4%)**
III- Including it in undergraduate curricula *"I don't know whether it's their responsibility, but this topic should be included in undergraduate programs".*	**02 (9.1%)**

Source: Research data.

DISCUSSION

Most study participants had a specialization (postgraduation) degree. According to a study covering the period between 1976 and 2017, there were 3,105 SLH therapists with a master's degree and 1,125 with a doctoral degree. That study revealed the continuous and significant increase in the number of SLH therapists with a doctoral degree, which ensures the inclusion of such professionals in qualified research and scientific production and demonstrates the importance of constantly updating and obtaining postgraduation degrees[6].

Most participants considered their previous contact with speech-language teletherapy in undergraduate courses "unsatisfactory". In 2020, researchers interviewed 32 SLH therapists who worked in the state of Bahia; 87.5% of them said that teleconsultation/telehealth was not addressed in their undergraduate courses. This reveals the urgent need for including this topic in the curricula of SLH Sciences programs in the country, particularly because of the pandemic[4].

The use of teleconsultation, telediagnosis, and telemonitoring was regulated by the CFFa in Regulation no. 427, of March 1, 2013[7]. Nonetheless, this topic is not included in the National Curricular Guidelines[4] and may or may not be occasionally approached in regular subjects. In 2020 and 2021, those who had graduated from college (either recently or not) had to learn teleconsultation models from other sources to put them

into practice. Moreover, such practice was scarcely reported in Brazil[7-9].

The growth of speech-language teletherapy poses the need for including the topic in undergraduate and postgraduate curricula[7]. Hence, it is important to reflect on the SLH training process, especially regarding changes in the use of information and communication technology (ICT) in assessment and intervention procedures – to which end the professionals' perceptions on the topic are essential. Undergraduate students must acquire theoretical and practical knowledge on this type of practice to provide quality teleconsultation, respecting ethical, safety, and privacy precepts regarding patients who receive speech-language teletherapy[4].

A total of 50% of participants informed they obtained remote care training in qualification programs, and 90.9% consulted the Good Speech-Language Teletherapy Practice Guidelines, whose objective is to furnish information to help SLH therapists who want to begin or increase their use of speech-language teletherapy. This shows the significantly increased search for improvement in this form of healthcare.

As for the knowledge of speech-language teletherapy, 100% of participants said they "know what it is about". Telehealth or telemedicine are defined as ICT use in the field of health, making it possible to offer healthcare services especially when distance is a critical factor[8].

CFFa Resolution no. 580, of August 20, 2020, regulates speech-language teletherapy, indicating that it is made via ICT to promote health, improve speech and voice, and prevent, identify, assess, diagnose, and intervene in human communication disorders, balance, and orofacial functions. Furthermore, such practices require adequate and recognized ventilation, confidentiality, information storage, and safety standards.

Most interviewees (72.7%) used free platforms, which agrees with previously published results, in which 90.6% of SLH therapists used this type of platform[4]. Participants in both studies mentioned the use of platforms that did not comply with the Health Insurance Portability and Accountability Act (HIPAA)[4], mainly because they have no financial cost and are widely known platforms, used by the community in general.

Even though social isolation was rather uncommon for the whole population before the COVID-19 pandemic, 63.3% of research participants reported that most patients agreed to continue with remote procedures. This disagrees with data from a study conducted in Northeastern Brazil, in which 87.5% of respondents reported there had been resistance to changing the assistance model[4]. Despite the acceptance, participating SLH therapists noticed an increase in nonadherence (40.9%) and a decrease in the number of sessions (40.9%) in teleconsultation. Nonadherence was observed by 34.4% of professionals in the Northeast[4]. Various contextual factors may have influenced the decision to stop the treatment during the pandemic, some of which have been pointed out in the literature: unemployment, decreased family income, social vulnerability, difficult access to quality equipment and the Internet, and so forth[4]. The patients' perspective of remote care must be considered. It was not the objective of this study to obtain such information, but in non-pandemic situations, professionals must offer and justify teleconsultation. They are responsible for recognizing the patients' acceptance or nonacceptance conditions, including technical difficulties.

A total of 86.4% of participants reported a decrease in the number of new cases when they offered only teleconsultation. This may be explained by the resistance to the new model on the part of people who were not having SLH therapy yet and/or by the fact that people stopped seeking healthcare, avoiding going out from home during the most critical part of the pandemic. Moreover, 40.9% of SLH therapists answered that "despite the initial acceptance to continue with remote care, the number of patients decreased with time". According to CFFa Resolution no. 580 (2020), speech-language teletherapy must be based on the professionals' decision-making capacity according to clinical and non-clinical information and therapy time markers. The frequency, duration, and makeup of in-person and remote care should be determined by SLH therapists.

Technology use proved to be a powerful SLH therapy tool during the COVID-19 pandemic. Speech-language teletherapy was the immediate solution to overcome inevitable adversities, in terms of health service reorganization[10].

Many benefits of the use of technology for therapy have been observed[10,11]. Hence, a wide range of digital technologies can be used to improve access to health services, not only in SLH therapy but also in the various health professions[12].

The small number of professionals participating in this research is a limitation . This may have been due to a lack of knowledge about the study or a lack of experience with speech-language teletherapy,

which was one of the participation inclusion criteria. Moreover, since it is a recent topic, few studies have been conducted on speech-language teletherapy.

CONCLUSION

All participants reported they knew speech-language teletherapy. Most of them also said that this topic was not addressed in their undergraduate studies; hence, they sought training from other sources to conduct teleconsultation. They also reported that most patients agreed to continue with that type of care, although the number of new patients seeking treatment during the pandemic decreased.

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