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Telepractice in Speech-Language Therapy During COVID-19 Pandemic

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Abstract

Objectives: The purpose of this paper is to review the recent literature and reflect on the studies conducted to investigate the efficacy of tele practice in speech-language therapy. This paper focuses more on the recent literature and the studies conducted during the coronavirus COVID-19 pandemic.

Methodology: A review of the recent literature from 2012 to 2021 was studied on providing speech-language therapy intervention through tele practice. Key literature search sources included the Sci-hub, PubMed, HINARI (Health Inter Network Access to Research Initiative), and Google Scholar databases.

Findings: The review of the literature provides evidence that telepractice delivery model for speech and language therapy services is an effective and useful way to cater to the needs of the patients. However, this paper also provides us with an insight that the hybrid model which is the combination of one-on-one and telepractice therapy session may be more effective and holistic way to provide therapy. There is a vital need for more investigative studies on the topic of telepractice.

Unique Contribution to theory, practice, and policy: Speech and language therapist may opt for a hybrid therapeutic approach to achieve more functional outcomes. There is a need for in-depth and comprehensive investigative studies to fully understand the effectiveness of telepractice service delivery model when this model is utilized for variety of different speech and language disorder. Moreover, policies at professional institutes need to ensure that therapists undergo trainings on telepractice techniques and functionality to provide holistic treatment to patients and support care givers.

Keywords: *Telepractice, coronavirus, communication disorders.*

Introduction:

Tele practice has been identified as one of the effective health service delivery models. It has been proven as an efficient, promising, and accessible channel for providing services to patients having speech and language disorders (Reynolds et al., 2009; Theodoros et al., 2012). The tactical and efficient use of telecommunication technology in assessing, treating, and counselling patients displaying communication and swallowing disorders is an essential aspect in meeting the growing demand for rehabilitation services around the world. (Theodoros et al., 2012).

"According to American Speech Hearing Association (ASHA)," tele practice has been explained as "The application of telecommunication technology to deliver speech-language pathology and professional audiology services at a distance by linking clinician to client or clinician to clinician for assessment, intervention, and consultation"(ASHA 2013,p.211). When a clinician is not providing one on one therapy sessions they usually perceive that therapy would not be able to yield more favorable outcomes. However, it has been found that telepractice for speech-language pathology shows not only positive results but, in specific cases it has shown superior results compared to traditional face-to-face speech therapy sessions.(Chen et al., 2017; Coufal et al., 2018; Lee et al., 2020)

Telepractice services can either be offered synchronously, which means that the session is provided where both the clinician and patient are present in real-time, or it may be provided asynchronously where the patient is outside the live session, and the sessions are stored or forwarded. Asynchronous opportunities widen finite time to the patient's functional environment compared to synchronous ones. Videoconferencing is a mode of synchronous telepractice and requires a camera, monitor, and microphone to transmit audio and video that can be implemented in evaluation, diagnosis, treatment, and education (Ward et al., 2019). The type of platforms used for synchronous interactions are - Web-Ex(42%), Zoom (35%), and others (28%) whereas the three main modes for delivering asynchronous opportunities are emails (73%) videos (38%) and custom programs (20%) (Grillo et al., 2017)

Telepractice is an emerging model for therapeutic service delivery. First, this model promotes cost-effectiveness, quality, and versatility for professionals working in the health and social sectors. Even when the service expert and the recipient are at a distance. Secondly, telepractice can bring services to rural, underdeveloped areas where professional services are unavailable, allowing service providers to ascertain larger chunks of clients and elevate the effect of rehabilitation services in their areas. Thirdly it is an evidence-based and reliable service delivery model within speech-language therapy (ASHA 2018)

Telepractice is a coherent service delivery model for speech-language pathology that can be implemented across various disorders, including speech and language impairment in children, disfluency of speech, neurogenic communication disorders, and swallowing disorders. The majority of domains of speech-language pathology clinical practice have evidence supporting the utilization of telepractice as a model of service delivery (Fong et al., 2021)

Telerehabilitation lies within the realm of *telehealth*. Later American Speech-Language-Hearing Association (ASHA) coined the term *telepractice*, originating from *telerehabilitation*, to include remote services for communication and swallowing disorders outside the health care settings. Telepractice is an umbrella term under which tele speech, tele audiology, and teleAAC are classified (Cason et al., 2014)

A systematic review was conducted of literature associated with geriatric telepractice services (screening, assessment, and treatment) from 2014 to 2019 - thirty-one pertinent studies were sorted out and chosen; the outcomes of this review paper assist our understanding that the use of telepractice for adult patients is feasible and practicable service. (Lowman et al., 2020)

A case study was conducted to explore how telepractice is often used with a stuttering client. The participant in the study was a 12-year-old female who stuttered. She received weekly therapy sessions via telepractice for nine months. Results supported the notion that telepractice services with a patient are often successful for both managing stuttering moments and increasing self-acceptance of stuttering. (Barnett et al., 2020)

As rehabilitation professionals, speech and language therapists (SLTs) have deduced that patients will still be able to receive services even after these testing times, whereas there has been a paradigm shift in therapy service delivery. However, Tohidast (2020) and colleagues have argued on the negative impact of coronavirus on speech therapy services and how they have to make an effort to deal with families' concerns and to elucidate the importance of telepractice during the outbreak of COVID 19.

A qualitative analysis was done in Korea to understand the factors which are considered by SLPs and caregivers while opting for teletherapy sessions. It was observed that the highest level of priority was given to building rapport with the child client by the two clinicians and parents. Furthermore, the study suggested that face-to-face therapy is still a critical intervention model for service delivery even in telepractice program explaining that the combination of both the onsite face to face sessions and teletherapy sessions are essential for a practical treatment approach (Yoo.J et al., 2020)

In Hong Kong, an investigative study focused on the hastened emergence of providing speech-language therapy services through telepractice during the coronavirus pandemic, between February and March 2020. Speech therapists were required to complete a web survey. The survey had 15 probes to assess participants' demographics, existing service delivery in telepractice, perception, and their training and knowledge on telepractice. One hundred and thirty-five skilled speech-language therapists completed the survey findings revealed that one-third of the participants have provided services through telepractice, out of 72.3% which considered it less effective than individual one-on-one therapy sessions. 83% of respondents indicated that unsuitable patient type and age are the main reasons for not providing telepractice. This study also highlighted that most participants had yet to gain previous training for delivering telepractice. Understanding of telepractice among participants was found only to align reasonably with international regulations. (Fong et al., 2020)

The researchers have found that the application of telehealth as a service delivery model gives rise to parent-child interaction during auditory-verbal therapy (AVT) sessions because the therapist is not physically present; this absence causes parents to become the first language facilitators - a pilot study was administered by (Ocampo et al., 2020) to debate the event of the Caregiver-Child Auditory Skills Tracking (CAST) Scale to keep a record of caregiver implementation of the auditory skill hierarchy. The findings of the study revealed rater's auditory skills training had a statistically significant effect on auditory skills strategies data. Additionally, telehealth was observed to extend parent involvement in both sessions. The information also suggests the continued progression of the CAST scale and supports telehealth as a viable option for speech-language pathology service delivery.

Videoconferencing technology has advanced with time and is now available across various devices. This digital advancement supports both synchronous and asynchronous service delivery models and should incorporate additional hardware and software. (Anne et al., 2013)

The novel virus, COVID19, indiscriminately affected every stratum of society across the planet, starting at the end of the year 2019 through 2020 (WHO, 2020). Speech-language therapy client's interest in receiving teletherapy has increased in response to COVID - 19 pandemic.

The limited access to one-on-one therapy services has been recognized as one of the reasons for using telepractice as a service delivery model. Most communication disorders relate to assessment and intervention using video or audio technology. Shprintzen (2012) reports on models for providing care to people at a distance, including internationally, and presents a replacement model for allowing clinicians to achieve people everywhere on the earth. Speech-Language therapists working in schools acknowledge the possible utilization of telecommunication models, but there needs to be more training to implement this service delivery model (Grogan et al., 2012).

To evaluate the SLP's perspective and current practical implementation of telepractice in pediatric feeding, a survey was performed to confirm the study's results further. An E- survey consisting of questions related to general demographics, feeding experience, telepractice experience, and attitudes towards telepractice was distributed among SLPs working with pediatric dysphagia within Australia. Eighty-four complete responses were received out of which 41% of the participants were curious about providing telepractice services, and another 20% reported experience delivering pediatric feeding services utilizing telepractice model. Most clinicians identified a variety of advantages to telepractice feeding services in addition to various age groups, and feeding services that they believed might be offered via this mode of intervention. The benefits include exposure to the natural environment, reduced distance and travel, opportunities to extend services, and increased supervision and support. However, most respondents reported difficulty accessing technology daily to determine regular telepractice services, despite all the advantages available. Clinician concerns regarding the security and efficacy of conducting pediatric feeding assessments through telepractice were also recognized as a part of the survey. Even though the delivery of pediatric feeding services via telepractice

remains limited, positive perceptions regarding its use were observed in many clinicians. (Raatz et al., 2019)

In another research, Lee reviewed current studies associated with the efficacy of telepractice for speech-language intervention for adolescents and adults with speech-language impairment. He elucidated virtual therapy's advantages and discussed the current research's limitations (Lee et al., 2019).

In India, a survey of telepractice in speech-language pathology and audiology was conducted. The total participants in the survey were two hundred and five SLPs .12.5% reported the utilization of telepractice to deliver clinical services. Participants also highlighted the dire need for professionals in India to deliver speech-language pathology and audiology services. Moreover, SLPs suggested that the utilization of telepractice service delivery model may often meet this need. (Mohan et al., 2017).

In recent years literature has documented the increased use of providing speech-language and hearing therapy services through telepractice. A study focused on comparing one-on-one therapy service delivery and telepractice for speech sound production employing a functional outcome measure. The inclusionary criterion for the cases was: (a) children received treatment exclusively for phone production, (b) they were between 6.0 and 9.5 years old, and (c) they received therapy lasting between 4 and 9 months. A complete of 1,331 ASHA NOMS cases and 428 telepractice cases were included. Initial FCM scores matched the two groups. Mann–Whitney U tests were completed to match differences within the median change scores (the difference between the initial and final FCM scores) between the two groups. No noticeable difference was observed between the one-on-one therapy group and telepractice group. The outcome of the study supported the utilization of telepractice among school-aged children. (Coufal et al., 2018)

Different therapy techniques for a spread of communication disorders are paired with telepractice to facilitate people living in distant areas - A pilot study of telepractice for teaching listening and speaking to Mandarin-speaking children with congenital hearing impairment was conducted to assess the effectiveness of auditory verbal therapy (eAVT) provided through videoconferencing and face to face sessions . No significant differences were found within the language scores between the 2 groups. The results demonstrated that eAVT may be a viable alternative to face-to-face therapy sessions. (Chen et al., 2017)

In a pilot study conducted by Aziz & Othman in Malaysia, the telepractice program focused on the supply of, and convenience to, credible therapy services provided by trained professionals. Four families with toddlers diagnosed with profound sensorineural deafness prelingually were provided with teletherapy. The mode of communication of these toddlers was speech, the speech-language therapy session was given twice a month whereas one literacy session was conducted for six months. In every session two factors were predominant (i) the child was given direct instructions and (ii) parents were coached so that they become the primary language facilitators to their child. There were two professionals involved in the intervention program one was a speech-language pathologist having specialized skills to work on the speech

development of toddlers with hearing impairments and the other one was a teacher of the deaf child to provide literacy development sessions. Both professionals were graduates in their fields of knowledge and trained to work with pediatric deafness. Zoom® was the platform used for providing teletherapy services. This study highlights the need to deliver quality therapy services through telepractice service model on a broader scale. (Aziz et al., 2019)

Discussion:

The COVID-19 lockdown upended the health service systems of developing countries, and conducting face-to-face direct individualized speech, and language therapy sessions were impossible. This dire situation caused for implementation of telepractice in speech-language therapy. To meet the demand of patients who needed speech therapy services.

The process of providing traditional one-on-one therapy for communication and swallowing disorders halted, completely restricting assessment and treatment procedures to control the spread of coronavirus. As a result, speech-language therapists and their patients were in dire need of resuming the services that brought forth the implementation of telepractice in assessing and treating patients presenting communication and swallowing disorders.

We are moving into new folds of the digital age. Use and understanding of technology are crucial and the demand of the current time. Telepractice has the potential to become an imperative mode of service delivery.(Coufal et al., 2018) Therefore it is imperative to dwell on the outcomes this service delivery model has to offer.

The studies reflected in this research article provide evidence that most speech-language therapists perceive the one-on-one service delivery model to be more effective than the telepractice intervention service delivery model. Moreover, this is also a perception amongst the SLTs that the telepractice model may be suitable for certain disorders while for others this model will not be effective.

There is a limited amount of evidence for the efficacy of the telepractice model in speech therapy services. However, small homogenous sample size confined us from understanding the effectiveness and potential to use telepractice speech therapy services for a variety of speech-language disorders.

Furthermore, the insight that we gain from these investigative studies highlights the importance of professional training and coaching among speech and language therapist. Using the appropriate resource material for various disorders may give the professionals a clearer outlook towards the telepractice service delivery model.

Conclusion:

Telepractice in speech-language therapy has been studied more in recent years in the western world. Telepractice has been established as an effective way of providing services to patients having communication and swallowing disorders through several investigative studies in the developed world. In contrast, in developing countries, this realm of service delivery still needs to be fully understood.

Telepractice delivery model is likely to increase the accessibility of services, reaching out to more people who require services. In addition, providing patients with professional services in their natural environment may be more effective.

There is a vital need for professional training to be provided to the speech-language therapist to conduct and provide intervention to patients through the telepractice model. Professionals need to receive training that prepares them to use telepractice model of speech language therapy services in the real world.

The curriculums and other training programs must mandate the completion of telepractice courses to ensure that professionals can learn, apply, and provide feedback on improving this model of service delivery. In addition, there needs to be programs that allow caregivers to understand the practicalities and usefulness of telepractice and what role they can play in ensuring that therapy achieves the proper outcomes.

Evidence from the developed settings suggests no difference in the therapy outcomes while comparing the two models. However, a hybrid model combining one-on-one sessions and selective interventions through telepractice provides the best holistic therapy model that can allow patients to be treated with the support of caregivers and therapists. Furthermore, telepractice could also open up new approaches to treatment that may not have been possible with the typical one-on-one therapy models.

Finally, telepractice model is still in its infancy, and this potential offers the chance to grow and further develop the field of speech therapy. This model benefits patients, therapists, and caregivers. However, this model faces typical change management issues expected within therapists, patients, and caregivers. Due to this, there is a need for these practices to be supported and nurtured by training institutions, universities, and therapy institutes, so that the field can progress further and open up new areas of impact.

A heterogeneous and larger sample size investigative study both quantitative and qualitative are warranted in the domain of telepractice service delivery model for speech and language therapy so that the professionals have a structured and clearer model which is easier and effective for variety of speech language disorders.

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