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Original Article

Opinion of Speech Language Pathologist about Teletherapy in treatment of Autism Spectrum Disorder

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ABSTRACT

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder associated with underlying cognitive characteristics that often coexist with other disorders **Objective:** To find out the opinion of speech language pathologist about teletherapy in treatment of Autism Spectrum Disorder (ASD) in light of Coronavirus disease 2019 (COVID-19) pandemic. Methods: This is a cross-sectional study. The data was collected through social media or online survey via Google forms. The duration of study was 6 months from January to June 2021. To assess opinion about teletherapy, a convenient sampling technique was held in which speech therapist (n=113) completed an online survey amidst COVID-19 with 20 questions related to providing teletherapy service. A questionnaire was developed with the help of expert opinion and literature review. Measures of ratings included custom-made attitudinal statements towards teletherapy by Speech Therapist. **Results:** The results indicate that 8.7% speech therapists plan to discontinue teletherapy after COVID-19 pandemic while 48% speech therapists were satisfying with teletherapy service. None of the participants plans to switch completely to teletherapy. Besides technical conditions, other factors also have influence on teletherapy. **Conclusion:** The delivery of teletherapy has been found to be an efficacious, acceptable and feasible treatment modality for individual therapy.

INTRODUCTION

The COVID-19 pandemic has created unprecedented disruptions to essential services within children's and youth mental health services. This has necessitated the rapid modification of existing treatments to avoid discontinuation of clinical intervention and to prevent potential mental health regression. Kanner was the basal to classify ASD in 1943. ASD is a widespread, particularly heritable, and heterogeneous disorder [1]. Early-emerging social and communication impairments, along with static and repeated pattern of actions and interests, can be used to diagnose autism. The extent to which they manifest varies greatly depending on age and talent. Along with these central signs, autism manifests as disablement in social communication and relations, sensorial abnormality, repeated activities, and varying degrees of intellectual disabilities, People with autism are more expected to have co-occurring psychological or neurological conditions, including hyperactivity and concentration ailment (including attention deficit hyperactivity disorder (ADHD), depression, epilepsy and anxiety. An interpretation of autism is made after attaining an in-depth burgeoning history, usually from parents, as well as scrutiny of the child interacting with parents or other individuals [2]. ASD can be related to a variety of other disorders, including attention deficit hyperactivity disorder (ADHD), cognitive impairment, language delay,

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and inherited disorder. In spite of the fact, that individuals with ASD vary greatly, features of ASD are defined by core characteristics in two domains: social interaction are limited, repeated sensory–motor activities, which are present regardless of culture, race, ethnicity, or socioeconomic status. ASD is caused by anomalous brain development and neuro-restructure at a tender age. However, since there are no definitive biological markers, the diagnosis should be based on patient's actions. Insufficiency in social-emotional reciprocity, as manifested by persistent impairment in pragmatics and interacting with others across various contexts [3]. Besides advancements, the suggested diagnostic age remains from 4-5 years for autism. Biological markers that evaluate early structural and practical connectivity, visual orienting and other biological tactics have exhibit promise in identifying the possibility of ASD well before the advent of overt behavioral manifestation [4]. In ASD, genetics plays a major role. According to research comparing the prevalence of ASD, discovered in identical twins, if one of the twins has ASD, then the chance of having autism to the other will be 36% to 95% [5]. In non-equal twins, if one child has ASD, the threat of the opposite twin having the equal ailment drops to 0 to 30%. Siblings of autistic children have a 2 to 8% risk of also developing with the disease, and this rises to 12–20% if the inflicted infant suggests deficits in a one to two of the three domains impaired in autism. ASD signs tend to be manifest extra regularly in sufferers with inherited or chromosomal situations [6]. Children with autism having 10% chance to also suffer from Fragile X and Down's syndrome. Parental records of psychiatric issues, and specifically schizophrenia, has been related to an elevated threat for ASD. Similarly, another risk thing may be parental age; According to research, having higher risk of developing ASD in children which are born to older mothers and fathers. Children born early (before 33 weeks of pregnancy) or birth with underweight are more likely to develop ASD [7]. Insecticides including chlorpyrifos have been linked to lower weight of infant and length, delayed psychomotor growth, and a higher risk of ASD. Furthermore, recent epidemiology studies show that pregnant mothers' exposure to viral or bacterial infections, especially during the first or second trimester, promotes maternal immune activation (MIA) and enhance the risk of neuropsychiatric diseases, like ASD, when compared to children of unexposed pregnant mothers [8]. Increases in neuro-inflammatory cytokines, more over defects in synaptic protein expression and aberrant synaptic connectivity, have been related to maternal immune activation, all of which can play a dominant role in pathophysiology of ASD. Pregnant mother's exposure to psychotropic medication, particularly throughout the first trimester, has been linked to an immense risk of ASD [9].

METHODS

The study design was cross-sectional and to find out the response rate of this study convenient sampling technique was selected. In which Speech Language Pathologist (n=113) completed an online survey amidst COVID-19, over a period of six months from January 2021 to June 2021. The inclusion criteria, SLPS's having work experience with Autism Spectrum Disorder. A questionnaire was developed with the help of expert opinion and literature review to collect the data. The questionnaire consists of two parts in which first phase include demographic data of participants and second phase measures the interaction of teletherapy sessions providing by speech language pathologist, effectiveness of teletherapy in treatment of ASD, teletherapy experience and views on the future of teletherapy. This survey was conducted using a Google Form/ an online survey. After the completion of data collection, frequencies of each question had been calculated through SPSS to evaluate final results of research. To find the frequencies of answers, we put data into SPSS software after the completion of data. Each question and demographic information of participant was analyzed. There were 113 participants and total 20 questions. Tables of frequencies and percentage were made to analyze results to research questions. After acquiring the data, all responses were recorded for every participant via using Statistical Packages for Social Sciences (SPSS) version 21.

RESULTS

In total, 113 speech language pathologists were included in completion of this survey to find out effectiveness of teletherapy in treatment of ASD. 72.4% participants were female and 16.5% were males. Consequently, the sample comprises following data given below in tables. Each question gives significant number of results accordingly. This significant number of each question decides the overall result of this research (Table 1).

Sr. No	Questions	Highest selected choice	Highest frequency	Highest percentage
1	Have you ever conducted teletherapy before?	Yes	74	58.3
2	How long are the teletherapy sessions?	30 minutes	59	46.5
3	At which level you are giving therapy to patient?	Speech level	65	51.2
4	How do you do a speech therapy session online?	Interactive therapy games	56	44.1
5	Do you need any kind of special equipment?	No	55	43.3

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6	Is using a computer going to be a distraction?	No	58	45.7
7	What kind of devices you are using?	Smartphone	60	47.2
8	Do you have a quiet and private place for online sessions?	Yes	80	63
9	Is there is an accurate description of the technology to patient/parent?	Yes	86	67.7
10	Are you satisfied with the voice quality/visual quality of the equipment during session?	Yes	81	63.8
11	Does tele-therapy yield improvements in parents and children comparable to traditional in-person therapy?	No	56	44.1
12	Does teletherapy gives desirable results in your patient treatment?	Yes	70	55.1
13	Patients flow for teletherapy since you have begun has	Increased	69	54.3
14	Do you feel your child's progress can completely stop until the pandemic has resolved?	No	59	46.5
15	Does teletherapy service may influence health status of your patients?	Improved health	74	58.3
16	Did you find teletherapy service feasible?	Yes	80	63
17	Are there specific challenges regarding the teletherapy setting?	Yes	75	59.1
18	How do you rate your teletherapy experience?	Fair	41	32.3
19	Is teletherapy just as good as traditional therapy?	No	67	52.8
20	How do you rate the overall quality of the teletherapy session?	Fair	61	48

Table 1: Response of the participants regarding the effectiveness of teletherapy in treatment of ASD

Above outcomes in the table indicates that 48% of speech language pathologist plan to discontinue teletherapy after the COVID-19 pandemic. They were just offering it as an adjunct to traditional face-to-face therapy. None of the participants plan to completely switch to teletherapy, while the majority with 59.1% stated that they were facing different barriers (e.g. no quite or private place, not satisfy with the quality of equipment etc.) while providing the teletherapy.

DISCUSSION

The COVID-19 promoted teletherapy service instead of face to face traditional therapy and It likely has influenced the perception of teletherapy as a valid alternative to established care settings, as well as the lack of alternatives to continuing the care patients need. It has become imperative that healthcare is shifted from in-person to tele-practice due to current pandemic [10]. In our research, the item with the strongest shift was "Effectiveness of Teletherapy in treatment of autism spectrum disorder" as near 48% speech language pathologist experienced such a change in attitude towards teletherapy. Ying Hao who studied a comparison between teletherapy and traditional in-person therapy: Prospects for parental interventions for children with ASD with significant improvement in parental fidelity and children's lexical diversity and morph-syntax complexity. There were no significant differences between the two treatment groups in any outcome measure. Contrary to our research, 52.8% speech language pathologist experienced teletherapy not as good as in-person therapy [11]. Fewer participants experienced technical problems occasionally or frequently because poor internet connections, video software glitches, and connection delays can make online therapy more stressful and less personal. For those who lack technical knowledge or do not trust digital platforms, telemedicine may not be the best option. In terms of changes in work processes and the effectiveness of patient care, we found that the majority of speech therapists with teletherapy experience rated it positively in terms of their ability to deliver it and do what they want. We got the remote treatment results that exceeded our expectations because we said that remote treatment had the desired results with the patient's intervention [12]. Also their flow of patients has increased since they began providing teletherapy service for the reason that telehealth for people with disabilities, financial worries, transportation difficulties, and other barriers because most speech therapists use multiple platforms based on the needs and comfort of their patients. Many parents and caregivers are still skeptical of the new mode of therapy, which might account for why so many participants reported that they had difficulty in cooperating. This improved accessibility allows therapists to help more people [13]. Highlighting Flavia Marino statement that not only have parents achieved significant improvements in awareness and management of their children's behaviors, but the use of teleassistance has also been shown to reduce parental stress levels for these children's behaviors. Speech therapists were divided on whether teletherapy could compensate for face-to-face therapy. A small number of participants, 24% of survey participants, said they often or occasionally felt that teletherapy worked better than face-to-face therapy. 11.8% plan to use teletherapy only as an auxiliary means in the future [14]. Moreover, according to Michelle Boisvert, Tele-practice in the assessment and treatment of individuals with ASDs: A systematic review of studies related to the use of

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telemedicine in providing services to people with ASD was analyzed, suggesting that telemedicine is a promising approach to service delivery in the treatment of people with ASD. Hinder in implementation of teletherapy service might be that 59.1% of our participants were facing specific challenges regarding it as 19.7% of entrants have very little privacy at home, so finding a time and place for treatment can be stressful. They do not have quiet and private place for giving online session to the patients and 18.1% of the participants were not satisfy with the quality of equipment but 63.8% of participants show high satisfaction with usage of teletherapy service while giving the treatment to patients as it creates a safer environment for patient because process of going to a new environment to meet with a therapist can be a stressful one [15]. A study was conducted on the effectiveness of tele-therapy and in-person therapy in children with ASD but no significant different was observed [16]. Teletherapy became a practice following COVID-10 pandemic and similarly used for ASD patients [17]. A randomized controlled trial demonstrated the evidence based potential of telehealth to improve ASD condition [18-20].

CONCLUSION

Most of the speech language pathologists were giving online session on speech level to patients while using interactive games. Minority of Speech Language Pathologist found teletherapy effective in treatment of ASD treatment, while technical and others barriers are remained.

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