

Telehealth in Hand Therapy Practice: Indian vs Global Scenario

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Abstract: During the COVID-19 pandemic, the shift from in-person therapy sessions to telehealth posed both challenges and opportunities for occupational therapy, especially in hand therapy. Parents and patients initially doubted the efficacy of virtual therapy, but consistent engagement demonstrated its potential benefits. Teletherapy required not only specific hand skills but also adaptability, as therapists guided patients through exercises for fine motor skills, muscle strengthening, and sensory re-education using accessible household items. Despite the absence of hands-on support, teletherapy proved effective, particularly in encouraging independence and improving daily life functions. Although obstacles, such as reliable self-assessment tools, limited initial progress, teletherapy's flexibility provided new possibilities in rehabilitative care. A hybrid approach combining virtual and physical sessions could further enhance this model, improving accessibility while fostering the independence of patients in their daily routines.

Keywords: teletherapy, hand therapy, telehealth, occupational therapy, COVID-19

"I had an experience of online therapy classes ma'am...it is of no use". This was quoted by one of my patient's father in the midst of pandemic, when his son was referred for Occupational Therapy by a Developmental Pediatrician particularly for poor fine motor skills and handwriting difficulties. And this definitely wasn't the first instance that I came across since March 2019. With the COVID-19 there was a major shift in allied health services from physical sessions to telemedicine. It was the need of the hour and so was the need to keep a child undergoing supervision and intervention to maintain and improve his functioning. It took a few sessions to convince the parent that tele rehabilitation does benefit the child accompanied with home program.

Coming to Telehealth and Tele-hand-therapy, these are two terms which are dependent on each other. Teletherapy itself requires lot of hand skills like maneuver of mouse, use of keyboard/ touchscreen, adjustment of webcam/screen and many more. It is a rapidly developing service delivery model for Occupational Therapy (International Journal of Tele rehabilitation, 2014). Going to the google definition, Telehealth is the use of digital information and communication technologies, such as computers and mobile devices to access health care services. With recovery being exhausting and inconvenience today specially for hand injuries, telehealth has made it fast and convenient.

In his essay "Hand 2061" (Indian Journal of Plastic Surgery, 2011), M Felix questioned the deliverance of hand care to the estimated population of 1.65 billion Indian citizens by 2061. He emphasized the use of Digital platform like Medical Hand Centers for baseline diagnosis and treatment for common hand problems.

The year 2019 or precisely COVID-19, has forced us to embrace Digitalization which as Indians we are reluctant to use. While globally it has always been a hybrid model with online and offline therapy. This has also been proved through various research models (Hong Kong Journal of Occupational Therapy, 2019). Though major of the articles have targeted the population from rural and remote areas, other factors like access to technology, diagnosis with its appropriateness to telehealth have also been considered. Further research in this

area is suggested (Journal of Telemedicine and Telecare 2018).

Telemedicine India, dates back to 2001, for which Indian Space and Research Organization (ISRO) could be credited for. It was health project started in Chennai, South of India. Before the Pandemic, Telehealth had its restriction to remote areas only, but today it has been one of only service delivery model. Telehealth caters to neurological, orthopedic, pediatric, psychiatric disorders as well hand injuries.

Hand therapy is a specialty practice within Occupational and Physical therapy. It combines preventive care along with rehabilitation to allow individuals to regain maximum function. According to research "hand therapy is the art and science of rehabilitation of the upper limb" (Certified Hand Therapist 2012).

Hand skills may be affected primarily due to Congenital deformities, Genetic syndromes, Neurological disorders or Developmental Disorders and secondarily due to trauma, burns etc. The commonly observed affected performance components in hand injuries are range of motion, muscle strength, sensory loss, poor prehension or opposition, in-hand manipulation skills, grasp and release. These components affect performance areas of activities of daily living, work or vocation or recreation activities. The traditional Hands-on approach gives the therapist a better and clearer status on the current hand functions.

During pandemic, teleconsultation was the only way to address certain hand injuries. Beginning with knowing a client and getting him to avail Tele sessions was a big challenge. To make them understand though virtual session doesn't include physical handling, but they would benefit from them and prevent further complications. Establishing trust with patient through video was difficult. But on the other side of the coin, they received treatment with their dear ones and in a complete naturalist setting especially without the need for travelling.

When it came to assessment of hand function without using goniometry or sensory kit or designing a hand splint/ orthotic device posed a greater challenge. We had to rely partly on

patient reported outcome measures. Assessment was through observation of patient while doing his activities of daily living like writing, opening the lid and drinking water, brushing etc. or they were asked to perform some activities which provided the current hand function status like picking up small objects with tongs, use of clay, using scissors to cut, paper or cloth folding and active hand movements. The sensory evaluation was completely documented according to the patient's judgement, and comparing affected and unaffected hand. The grip strength was the weight which patient could lift.

When it came to the intervention part after the assessment, strategic communication, technodexterity, e/ virtual helper and adaptability of the therapist as well as the patient were few of the short term goals that were laid.

Teletherapy included active range of motion exercises, strengthening of muscles, and sensory reeducation by the patient either demonstrated by therapist or through videos. Use of Thera band, water filled bottles, clay, tweezers, cloth clips and many home tools were used during hand therapy. Most of therapy through online sessions emphasized activities of daily living for improving hand functions as well as regaining independence to perform it. When considering an Indian scenario, many hand functions are targeted during routine occupations like "wrist extension" and "Namaste", "eating with hands" and "opposition", "Interphalangeal" joints flexion" and "Namaz" and many more to the list.

In Global scenario, telehealth is delivered either assisted (accompanied with physical visits) or unassisted (online sessions). Many of the countries have Telehealth Software which eases the accessibility for the injured persons (Melbourne Hand Rehabilitation).

As said by Dalai Lama "Pain is inevitable. Suffering is Optional", though teletherapy misses the hands-on approach but it eases out patient's reach, gives him convenience for scheduling, and also gives him the confidence to be independent in his work and ADL activities.

Hand therapy specialization has gained importance through the last years and so has Telehealth.

With Master X, activities like using a paints to write, clay, keyboarding, customizing worksheets with help of parent and use of various Apps targeted not only the hand skills but cognitive as well as perceptual skills. With clinical reasoning, research evidence and post tele sessions results Master X showed significant improvement in hand functions and writing skills.

In future, combination of offline as well as online session, use of Apps and further research in telerehabilitation and hand therapy will help us to widen our horizons.