COMMENTARY

Neurorehabilitation in time of COVID 19: A perspective from Pakistan

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Abstract

A global public health emergency, the coronovirus disease-2019 pandemic has impacted every way of life, including neuro-rehabilitation, worldwide. Issues related to increased service demand in primary care, exhausted or insufficient healthcare facilities were significantly high in low and middle-income countries, like Pakistan, with already a struggling health infrastructure. This required major change in health service delivery and impacted rehabilitation care of vulnerable patients with neurological conditions and impairments. For the current review, relevant key words and their combinations were used for literature search, including 'COVID 19', 'SARS-CoV-2', 'Corona Virus', 'rehabilitation', 'physical rehabilitation', 'pandemic', 'NCOC', 'lockdown', 'health services', 'physical therapy', 'disability', 'access', 'tele-rehabilitation', 'research', 'human resource', 'healthcare', etc. The platforms searched were Google search, Google Scholar and PubMed. The idea was to highlight how the pandemic impacted neuro-rehabilitation care in countries like Pakistan throughout the pandemic duration and during the lockdowns.

Keywords: COVID 19, Disability, Health services, Neuro rehabilitation, Pakistan.

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Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which causes the coronavirus disease-2019 (COVID-19) has caused devastation throughout the world since its discovery in December 2019. Since then the pandemic has spread across the globe, wreaking havoc and affecting all countries alike. The World Health Organisation (WHO) classified the pandemic as a global public health emergency of international concern. Like other countries, Pakistan has also been severely affected by this pandemic and since the first was citedin in late February 2020, there has been a rise in the number of cases. Initially, a significant surge in positivity was noted due to the influx of infected pilgrims from Iran.[1] Within 23 days of the report of the first case, the number of positive cases rose to more than 300 infected patients.[2] Such a situation was expected considering the low literacy rate and general lack of awareness regarding COVID-19 that led to a non-serious attitude of people towards the adoption of social distancing, hand hygiene and other standard operating procedures (SOPs).[3] Like other low- and middle-income countries (LMICs), Pakistan has scarce high-end medical facilities and has inadequate health strategies. This along with high population density in major cities with the public having an unresponsive attitude towards general protective measures contributed to an increase in the number of cases.[4] Since the report of first case in February 2020, Pakistan continuously struggled to flatten the curve, but saw 3 COVID-19 waves, followed by a delta wave.[5] As of January 26, 2022, Pakistan has seen over 1.38 million confirmed cases of COVID-19, and had over 86,000 active cases and nearly 29,000 deaths, with the majority of cases being in Sindh and Punjab, the two provinces with the major population chunk.[6] The government has been trying its best to tackle the COVID-19 challenge to prevent any major setback with a major focus on healthcare provision.[4] The country's minister of Planning, Development and Reforms at the time, who was chairing the National Command and Operation Centre (NCOC) that managed all he pandemic-related issues, Asad Umar, said: "The target is to prevent healthcare system from getting choked besides reducing hunger, poverty, unemployment due to COVID-19."[7]

For the said purposes, a number of steps were taken, including complete lockdown on March 23, 2020, including the closure of all educational institutions, recreational centres, wedding halls, etc. However, the struggling economy of the country forced the government to lift the lockdown on May 9, 2020. As COVID-19 significantly impacted country's economy, as evident from the fact that poverty rate reached as high as 43% during the lockdown[8] and closure of different sectors resulted in a drop in gross domestic product (GDP) and loss of Rs1.3 trillion to the national economy, the focus shifted from complete lockdown to selective smart lockdowns of hot spots with relation to the infection rate.[7,9,10]

COVID-19 posed unprecedented challenges to states and communities across the globe. Like in many other countries, the health sector in Pakistan put in massive efforts to control the spread of this pandemic and to care for the ill presenting in any health setting. The pandemic put healthcare professionals working in emergency rooms (ERs), intensive

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care units (ICUs), laboratories and other departments in an unprecedented situation, with difficult decision options and intense pressure for manoeuvres. This significantly impacted the healthcare system, resulting in hindrances to elective healthcare services; limited patient access to accident and emergency (A&E) departments; changes in patient administration systems, such as a shift to telephone consultations instead of face-to-face consultations resulting in a surge towards the use of telemedicine; increased need for multidisciplinary team collaboration to manage COVID-19 patients; need for increased heathcare capacity, including an increase in ICU beds, staff and supplies, such as Personal protective equipments (PPEs), masks, ventilators, etc.; and special emphasis being put on physical and psychological pressures in healthcare workers in Pakistan due to high risk of infection, inadequate equipment for safety from contagion, isolation, exhaustion and lack of contact with family.[11]

Like other health services, rehabilitation services, especially neuro-rehabilitation services, are an integral and essential part of the healthcare system as they provide essential care to individuals of different ages to optimise cognitive and physical function to make them an integral part of society and lower disability.[12] Similar to all aspects of healthcare, neuro-rehabilitation was also impacted by the COVID-19.

COVID-19 increased the need for rehabilitation services in intensive care and patients with post-COVID-19 long-term complications. For such a purpose in a country like Pakistan where health facilities have limited capacity, special measures were taken for the conversion of different departmental wards into COVID-19 isolation units, high dependency units (HDUs), and ICUs to have more beds for COVID-19 patients to cater for increasing patient inflow.[13] Also, to ensure the care of patients affected by other medical conditions whose admission could not be postponed, numerous inpatient beds of Neuro-rehabilitation were converted to COVID-19 beds[14] and inpatient neuro-rehabilitation services were halted. This resulted in disruption of care for non-COVID-19 patients requiring continuous support and care, such as stroke patients, spinal cord injury (SCI) patients, children with cerebral palsy (CP) and the elderly, etc. for some time, but was somewhat catered to by the provision of tele-rehab services, home health services, and outpatient services. Similar to this, at some places specialised rehabilitation hospitals were also converted to COVID-19 hospitals and isolation centres. This is evident from the fact that the country's largest dedicated tertiary care physical rehabilitation hospital with more than 100 beds providing a range of comprehensive and multidisciplinary services to people with disabilities was converted to a 130-bed quarantine and isolation facility.[14]

Similar to other countries, limited services in some facilities and closure of other neuro-rehabilitation facilities resulted in overwhelming patient presence and intake in other neuro-rehabilitation centres of the region. This resulted in increased demand for admission in neuro-rehabilitation services having limited work personnel and eventually exhausting resources, including human resources.[15]

While some facilities were completely shut down, access to others was difficult. To curb the increasing number of cases, the government instituted suspension of all trains and inter-district passenger transit, including urban passenger transit. This was in addition to the imposition of ban on the movement of elderly, children and people with health issues.[10] Considering the fact that almost 70% of the country's population live in peripheries, individuals with specialised neuro-rehabilitation needs were unable to access healthcare services due to difficulty and in some cases complete lack of any transportation. Besides, neuro-rehabilitation professionals also faced difficulty accessing patients receiving care in home-based settings. As an approach to mitigate the threat of the spread of infection, the movement restriction of people was restricted as per the recommendation of healthcare authorities. This could have resulted in negatively impacting patients who were at high risk of functional deterioration, as lack of physical therapy and rehabilitation care could result in any neurological condition. Physical distancing and isolation measures implied the suspension of physiotherapy services, which impacted negatively patient's quality of life and health, and impaired physiotherapists' ability to manage the continuum of care for patients with chronic neurological conditions, such as stroke, SCI, Parkinson's, etc.

COVID-19 also resulted in the re-appropriation of not only physical resources but also human resources from specialised neuro-rehabilitation units to ICUs to care for COVID-19 patients. This was predominantly due to significant patient intake of COVID-19, but also due to the non-availability of staff as a result of COVID-19 infection or isolation. Also, manpower from the orthotics and prosthesis sector was also shifted to the development and production of masks and PPEs to improve the supply.[14] Such lack of skilled manpower related to neuro-rehabilitation services could have resulted in significant delays in the development of orthosis and prosthesis for neuro-rehabilitation patients requiring some form of support orthotics etc.

The physical and mental health of the working staff and health professionals was also one of the issues faced during the pandemic. Long working hours with increased physical work demand resulted in health professionals having significant physical and mental exhaustion and fatigue. Mental health was further challenged by additional

emotional challenges due to managing COVID-19 patients not having contact with family members due to the risk of virus transmission, fear of infection and transmission. This emotional stress was in addition to the stress resulting from witnessing deaths of COVID-19 patients and forced self-isolation and monitoring at home as a result of suspected infection. All these highlighted the need for mental healthcare for rehab and health professionals.[16,17]

While significant challenges were identified, some opportunities also came in the wake of COVID-19. The country lacks significant barriers to telemedicine and rehabilitation with a lack of infrastructure, internet access, and awareness. COVID-19 promoted the incorporation of tele-rehabilitation services to tackle the various issues.[18,19] International hospitals offered aid in the form of free online multidisciplinary rehabilitation programmes, consultation and online health scans, and tailored treatment regimens for patients in Pakistan.[20]

COVID-19 also provided an opportunity for the health professionals to upskilling rehab care services provided to patients under infectious control protocols for such professionals were provided training related to barrier protocols and effective and judicious use of PPE and provision of rehab care to COVID-19 patients.[14]

As things stand, the pandemic is far from over, and future policies and reforms can be carried out considering all aspects of neurological rehabilitation care with special emphasis on healthcare infrastructure, delivery of healthcare, research and publication, telemedicine, and tele-rehabilitation, COVID-19-related medical and rehabilitation education in the light of changing dynamics of COVID-19.[11]

Conclusion

COVID-19 has posed exceptional challenges to the health community in Pakistan and has significantly impacted neuro-rehabilitation services. While neuro-rehabilitation facilities, professionals and resources were made available to manage the increasing health demand of COVID-19, patients requiring neuro-rehabilitation care markedly suffered due to lack of facilities and access, etc. Though these challenges led to some adaptation in neuro-rehabilitation services, a lot still needs to be done.

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