

Impact of COVID -19 on Prosthetics and Orthotics Rehabilitation in India: A Cross-Sectional Study

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ABSTRACT

Background: Densely populated country like India is demonstrably affected by COVID- 19 in both first and second wave. The people with disability who commonly faced challenges in daily encounters were face additional difficulties due to devoid of appropriate healthcare services and suffered a lot with psychological trauma due to lack of community participation.

Objectives: This study aimed to find out the impact of COVID 19 on Prosthetics and Orthotics professional, industry, student, private practitioner and Disabled people

Methods: A web survey was conducted in India among the Prosthetist and Orthotist professional working in Government sector, Non government organizations, Private sectors approximately 3 month after the second peak of COVID 19. The descriptive data of impact of Pandemic on profession, service provider, service user and students of this profession were collected.

Results: Eighty one professional responded to questionnaire and private sector professional were significantly affected by this pandemic as compared to government employee, The service user faced remarkable difficulties and mental trauma due to restriction as well as to understand the concept of tele-rehabilitation due to lack of accessibility to technology and knowledge.

Conclusions: The rehabilitation to the person with disabilities should be in community based, technology friendly, easy to avail and cost effective. The professionals need to be prepared well in advance to face such emergency crisis and adopt the change to overcome the challenges. Use of technology and artificial intelligence may help people with disabilities as well as professionals to overcome the crisis.

Keywords: Mental health, Tele rehabilitation, Assistive technology, Activities of Daily living (ADL), Social isolation

INTRODUCTION

Novel Corona virus (COVID- 19) is a life threatening disease caused by Severe Acute Respiratory Syndrome Corona Virus 2 (SARS- CoV -2) which has been declared pandemic by World health organization (WHO) 1 as it affected life of the people across the globe. India, which has the second- largest population in the world, 2 is suffering severely from COVID- 19 disease. Densely populated country like India the condition is worse, due to lack of awareness

of appropriate COVID behavior, self discipline, poverty, poor health care infrastructure, weak public health governance. 3 More than 25 million of population has been affected by disease with more than 2.5 lakhs death reported and nearly 4 lakhs of population are being affected daily in the second wave. 4 In order to control the spread of deadly virus government of India and various state governments has imposed travel restriction, social isolation, curfew, shutdown and

complete lockdown. These restrictions however had an additional impact on the economy, human living, life style and mental health. 5, 6

The six hundred million people across the globe live with disabilities due to chronic diseases, injuries, violence, infectious diseases, malnutrition, and other causes related to poverty. 7 As per the Census 2011, out of the 1.21 billion population in India 26.8 million people were enumerated as 'disabled' which was 2.21 % of the total population (56% were males and 44% were females), 69% resides in rural areas whereas 31% in the urban areas, 20% of the disabled persons are having disability in movement who may need aids and assistive devices. 8 People disabilities (Divyangjan), who commonly encounter daily challenges such as barriers to community mobility, reduced access to healthcare services and higher risk of suffering from depression, may face additional challenges in the context of the pandemic. Along with common people the pandemic affected the Prosthetics and orthotics rehabilitation such an extent in which both Service to Divyangjan and professional career of Service provider has greatly impacted.

MATERIALS & METHODS

A retrospective web survey was designed and used to collect the data from the rehabilitation professionals working all over the India. The Google form with descriptive questionnaire was circulated among 110 professionals working in government, non government and private clinics. The components contained in the questionnaire consisted of several questions, namely 1) Do you feel COVID 19 impact the life of persons with Disabilities and how 2) How COVID 19 affect in development of human resources 3) what obstacle do you faced in serving the Persons with disabilities 4) what are the problem faced by the Prosthetic and Orthotics Industry during pandemic 5) What methods you had adopted to encounter the pandemic situations.

RESULT

This research was conducted between month of June 2021 to August 2021, out of hundred ten professionals, 81 responded to the questionnaire. The 59 professionals from the private clinic 22 from the government and non govt. organizations responded the questionnaire. The respondent consisted of 82% male and 18% female.

The results on Impact of COVID 19 on Persons with Disabilities (PwDs) were analyzed and 70% responses agreed that People with disabilities were already considered a marginalized group and faced problem in access to healthcare, rehabilitation services and community support services. Given their dependence on services and others to meet specific needs and their increased susceptibility to COVID- 19, people with disabilities were considered vulnerable in this crisis. While COVID- 19 is impacting the entire population, persons with disabilities were more susceptible to the disease due to their physical, sensory and cognitive limitations. The environmental, institutional and attitudinal barriers also aggravate the problem and new ones appear in the times of public health emergencies, restricting further in basic rights for persons with disabilities, including the right of independent living, access to health care and rehabilitation, and the right to life. During these times the Divyangjan were need of prosthetic and orthotic services for their independent activities of daily living (ADLs) have been affected severely. Result of prolonged isolation, dependant on others for ADL activities, unable to access to rehabilitation professional and appropriate assistive device services it have severe impact on physical as always psychological and mental health of person with disability. 10% explained Persons with disabilities were faced major barriers in getting the vaccine due to its shortage, difficulty in accessing the CoWIN portal for registration and lack of accessible infrastructure at vaccination centers.

Impaired mobility, overcrowding, tedious process, long waiting in the queue, barriers in environment has been biggest challenge for the disable population to get vaccinated. 20% of professional explained the difficulties faced by the professional to adopt the telerahab methods. This was the concept developed during first wave of COVID 19 to rehabilitate the disabled through telerehabilitation method. The 69% population of disability was in India living in the rural area and coming under below poverty line. Some were having communication device but without internet facility and some were not having smart phone. The professional was tried their best possible ways to rehabilitate them by making videos of care and maintenance and appropriate use of devices and uploaded in various media portal but the user could not avail all the facilities of telerehabilitation due to unavailability of communication devices.

Impact on human resource development

The 80% of respondent explained the importance of offline teaching, as training is the important part of rehabilitation for optimum use of Prosthetic and Orthotic devices. P& O rehabilitation is totally practical based approaches that require well equipped class rooms, clinics and laboratories. These are full time courses where students learn in real time through hands on training on Divyangjan.

The outbreak of this pandemic has measurably affected the academic year of 2020- 21 and 2021- 22. Theory classes have been conducted in online mode but the effectiveness was fall behind due to non availability of opportunity to learn hands on training by real time serving the divyangjan. Students admitted in 2020 had a shortage of clinical knowledge and practical skills due to the disruption of clinical rotations and live contact with real patients and laboratory practical. That result in lack of practical and problem solving skill which in long run may affect service of divyangjan. Online mode of teaching was not much effective due

to lack of preparedness , absence to direct eye contact, facial expression and body language which add extra understanding to the subjects. The 20% respondent explained the demerits of online teaching on medical ground as prolonged seating in front of electronic devices, 55 % students were developed stress on eye resulting headache, 10% students complained of poor digestion and lack of concentration.

Impact on P&O services

The 99% respondent agreed that the pandemic vastly affected the regular service delivery method due to unavailability of transportation facility, because in either way it was difficult to reach the service side. The professional not able to reach for providing service and the user also found difficulties to reach the Institute, clinics or camp site. P&O professionals have adopted tele-rehabilitation mode of for follow up treatment and training for the old user but the new disabled suffered a lot due to lack of access to suitable P&O devices and rehabilitation service.

Impact on Prosthetic orthotic Industry and professionals.

The result of this study depicted that waves of Covid- 19 have severely affected Prosthetic and orthotic rehabilitation industry. Many Private sector and clinics have been closed. Camps conducted at community level have been stopped. Inflow of economically stable disable persons in to P&O clinic/centre has reduced so the revenue generation, profitability has dipped drastically. In order to reduce losses and continue the sustainability of the private organization the management adopted salary cutting and staff deducting policies. Many professionals suffered from loss of pay, salary cuts, unpaid forced leaves and even loss of job. It resulted in financial and social insecurity, frustration, depression and poor mental health among Prosthetic and Orthotic professionals.

DISCUSSION

Prosthetics and Orthotics (P&O) rehabilitation in India is regulated by the Rehabilitation council of India (RCI) a statutory body under department of empowerment of Person with disabilities (Divyangjan), Ministry of Social Justice and Empowerment , Govt of India through RCI act 1992. 9 In a year 23.6 % of persons with disability received aids and assistive devices in which 21.8 % and 1.8% funded by government and Non government sectors respectively. 10 Delivery model of these aids and appliances is being done either by Institutional model of rehabilitation where the divyangjan has to visit the rehabilitation centre/ Institute/

clinic or community model of rehabilitation where the implementing agency reach out to the divyangjan by organizing camp at community level. During Pandemic the services were reduced 79.4 % (351629 vs 72301) in year 2020- 21 from previous year.11 The data of this study also show reduction in rehabilitation services , lack of accessibility to appropriate service, reduced exposure to practical training for young professionals, financial loss to private sectors, Salary cuts and loss of Jobs for professionals.

The blended model of telerehabilitation may be a solution to reach the community to serve the venerable group. The process of the blended model is shown in Chart I.

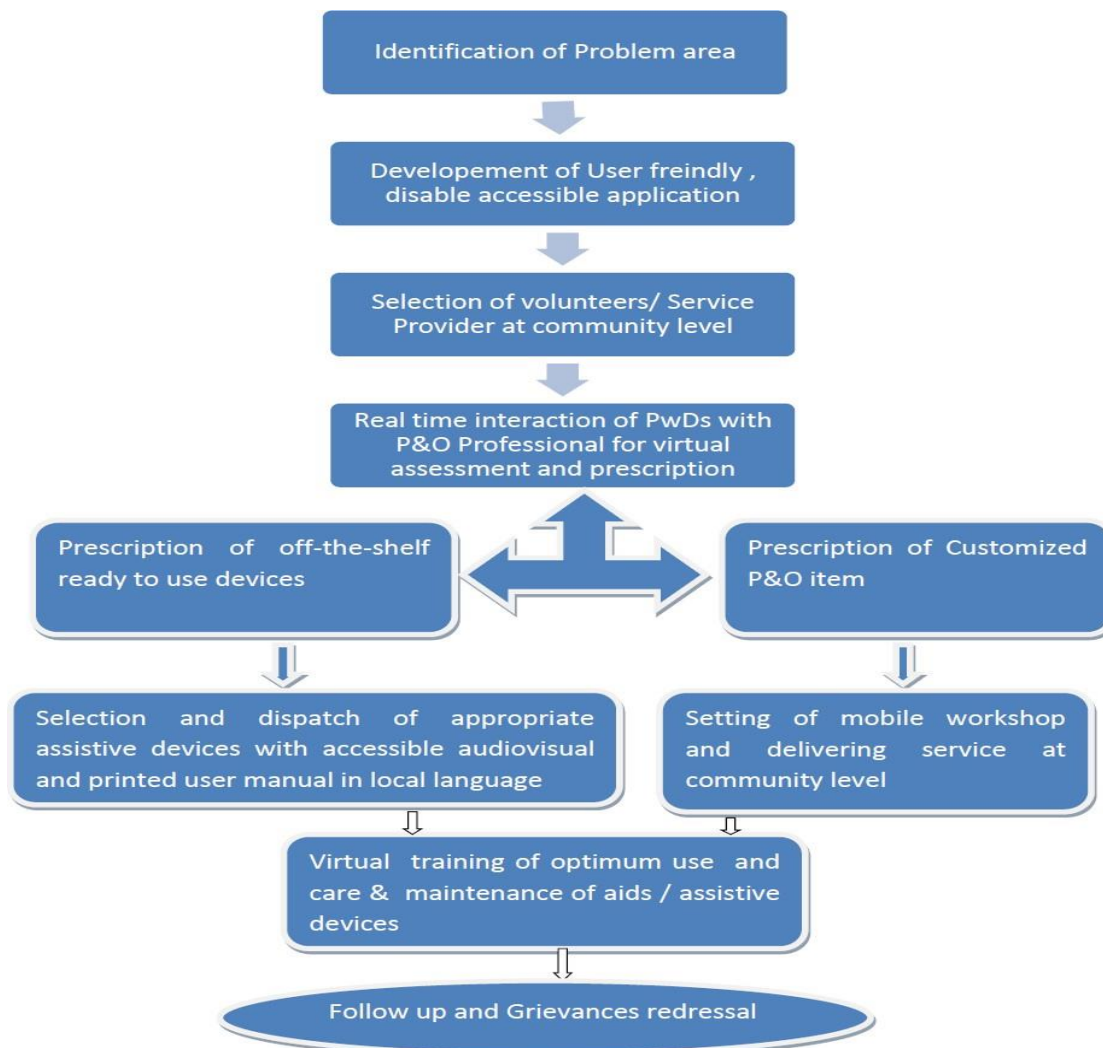


Chart I: Blended model of telerehabilitation for P&O Service

CONCLUSION

The COVID 19 pandemic affected the prosthetics and orthotic rehabilitation services and service providers. The person with disabilities also significantly suffered. But the pandemic made a way to the wide use of technology of telerehabilitation and development of high technologically advanced rehabilitation services model. Ensuring mobility, use of technology and providing psychological support to maintain good physical as well as mental health to fight against such pandemic in future.

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