

Impact of COVID-19 pandemic on people living with visual disability

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People living with visual disabilities/impairment are more likely vulnerable to get contracted from the severe acute respiratory syndrome coronavirus-2 (SARS-CoV 2) than people without visual impairment. This means more than 253 million people globally will be at higher risk of affecting by the COVID-19. The current pandemic, followed by a nationwide emergency lockdown to slow the unprecedented spread of the virus, will have a serious impact on people living with visual disabilities and even endangers their lives in the long run. Many restrictive and control measures, including the adoption of new behavioural changes (for example, social distance during outdoor movement, limiting touch or tactile contact) recommended by the government will pose immense challenges to individuals with a visual loss. This serious impact, including challenges in healthcare access, can be minimized through inclusive service approaches, involving persons with visual disabilities, caregivers, family members, and healthcare providers, along with the community to a large extent, and finally, support to improve the overall outcomes. The government, along with profit or non-profit private sectors, should consider initiating such inclusive approaches while planning responses to the pandemic. Indeed, the present COVID-19 pandemic provides an opportunity for health care planners and decision-makers of various organizations across India for a reformation of disabilities care. Impacts due to the pandemic and lockdown can be reduced substantially if planning and policy are in place before any emergency happened in the future.

Key words: The COVID-19, lockdown, impacts, visual disabilities, prevention

Globally, more than 6.5 million people are affected due to the COVID-19 and 387,155 deaths as of 6th June 2020, since it was declared a serious public health concern and pandemic by the World Health Organization (WHO) in March 2020.^[1] At the same time, more than 220,421 people are confirmed with the disease and 6348 deaths in India.^[2,3] The COVID-19, caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), is primarily transmitted through respiratory droplets or direct contact with a contaminated surface or fomites by hands, then touch to mouth, nose, and eyes. The typical symptoms of COVID-19 are fever, cough, shortness of breath with less common symptoms like myalgia, diarrhoea, and anosmia.^[4,5] At the time of writing the present paper, neither vaccine against the COVID-19 nor effective therapeutic agents is available in any part of the world.

A larger evidence shows that the SARS-CoV-2 infection and serious illness disproportionately occurs among minority population, for example, BAME community in the United Kingdom (UK), and socio-economic disadvantages, and persons with underlying health conditions.^[6-8] Similarly, the COVID-19 pandemic is likely to affect more in people with disabilities than people without disabilities.^[9,10] Low vision and blindness is one of the leading causes of disability. People living with visual disabilities (low vision and blindness) are

more likely susceptible to get infected by the SARS-CoV 2 than people without visual disabilities.^[9] This means that around 253 million people in the world, of which more than two-third from low-middle income countries, will be at higher risk of getting the infection from the SARS-CoV-2.^[11,12] Similarly in India, around 13 million people who have functional low vision problems (<20/60 to positive light perception) will be vulnerable to get contracted from this deadly virus. The number will be higher if individuals with the absence of light perception include.^[13,14] The majority of these visually challenged population reside in rural areas of the country and belong to lower socio-economic groups. The morbidity and mortality is likely to be higher if these groups of individuals are affected by the COVID-19 disease in India, though the risk of level varies by the degree of visual disabilities.^[9]

The higher possibility in terms of contracting with the virus, increase morbidity and mortality, could be because of many potential factors associated with people with visual disabilities. Firstly, lack of adequate knowledge about the COVID-19 resulting from an absence of accessible and specifically designed information for people with visual disabilities (PwVDs) especially those living in rural areas. Given the mass public announcement made by the government, the awareness about the COVID-19 may be high, but knowledge in terms of the

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cause, transmission, technique for prevention and protective measures could be poor due to lack of accessible information. Indeed, the current announcement is primarily focused on the general-public, which may not be suitable or user friendly among PwVDs. They also may face difficulty whenever they want to access the information, or websites are not suitable for screen readers. Secondly, the frequent need of personal assistance or support from others in performing their basic and instrumental daily activities especially for an individual with blind or severe visual impairment or blind couple, for example, while crossing the road, buying groceries and vegetables. Thirdly, inadequate knowledge about preventive and use of personal protective measures like wearing face masks, handwashing leading to incorrect practices, since technique for wearing face mask, washing hands relies on visual function; Fourth, the lack of awareness and insufficient knowledge on disinfection of their assistive devices, e.g., an individual with blindness may not be aware of disinfection the tips of foldable canes whenever it is used, magnifiers purchased from optical shops, haptic devices used in schools or colleges or borrowed from the library until they are informed about the need of disinfections. Fifth, persons with visual loss rely or depend on touch and tactile senses to perform their routine activities or outdoor movement which may further increase the chance of getting the infection from the virus. Sixth, an individual with visual disability is often a victim of negligence and ignorance in the society.^[15] Visually disabled people are being commonly discriminated against and stigmatized resulting in inequities in access to information and healthcare service.^[16,17] For example, the literacy rate among PwVDs is poor compared to persons without visual disabilities. The World Bank reported that the illiteracy rate among PwVDs is 80% in India.^[18] Similarly, unemployment rate and inaccessibility to healthcare services in PwVDs is exceptionally high.^[19] Seventh, inaccessible physical environment, infrastructures, and poor access to livelihood support compared to sighted people. There is a lack of facilities or buildings that have a barrier-free to access it or inclusive housing plan. Eighth, lack of adequate personal hygiene and environmental sanitation among visually disabled may further mount the risk of infection. PwVDs, particularly visually challenged students, are likely to have a decrease in personal hygiene compared to sighted students. For example, in a study conducted in schools for the blind of Ismailia City Egypt, a substantial number of students shows a poor knowledge regarding washing hands, face and ear care, oral hygiene, changing of clothes, fingernails cutting though they have good practices to other components of hygiene.^[20] A Turkey study reported the menstrual hygiene practices among women with visual impairment were not at the desired level.^[21] Moreover, a visually disabled or blind couple who live independently may have poor environmental sanitation either due to poor housing attributed to poverty or an absence of personal assistance. Ninth, people with visual disabilities are frequently associated with poverty and underlying health conditions. A large number of evidence shows that poor socio-economic status and associated underlying health problems are common amongst PwVDs.^[22,23] Tenth, the nationwide emergency lockdown effects like the sudden disruption of support system, including personal assistance, and potential economic hardship which will have serious consequences in health and wellbeing.

Furthermore, poor availability as well as accessibility for eye care services may get worsen visual impairment which further increases the severity of a disability. Indeed, visually disabled people have poorer health and vulnerable to injury due to falls leading to secondary medical problems or fractures of bones.^[24,25]

Mitigating the Impacts of the COVID-19 Pandemic

The Government of India announced the first phase of the nationwide lockdown on 24th March 2020 for 21 days to mitigate and slow the unprecedented spread of the COVID-19 in the country. This followed the shutting down of transportation, closure of shops, markets, schools, colleges, eateries, out-patients services in the hospitals except for emergency and lifesaving procedures and essential items (medicines and food supplies). The government recommends many behaviours change measures like strict social distancing, stay at home, washing hands, and wearing face masks, etc. The lockdown extended as a second phase from 15 April to 3 May 2020, later further extension was announced (third phase) from 4 May to 17 May 2020, followed by the 4th and 5th phase of lockdown with a couple of new rules and new relaxations after completion of the third phase.

Such an emergency lockdown adopted by the government poses immense challenges, including healthcare access, to people living with a visual disability which is compounded by threats and anxieties caused by the pandemic. The adoption of these new behaviours will have great limitations or difficult to practices among these groups of people, for example, social distancing may not be possible for an individual with visual loss; learning the steps for hands washing which predominantly relies on visual functions. Often individuals with visual disabilities are dependent on others for their livelihoods and need personal assistance to support daily living activities. In such a lockdown and pandemic situation, a change in the support system to persons with visual loss, including economic, is strongly required. A set of measures is needed to be adopted to ensure the continuum of care, services, and other facilities during the COVID-19 pandemic for PwVDs. Therefore, we need to develop a support system that is feasible and practicable to ensure continued assistance and facilitation and at the same time to alleviate the fear and anxiety borne by PwVDs.

We suggest the following three key important areas to mitigate the impact due to COVID-19 pandemic in people living with visual disabilities. This article will also provide guide to rehabilitation professionals or eye care professionals while planning for the support system and vision rehabilitation care of people with visual loss during the outbreak or in the future.

Social restrictions

A study on the impact on the transmission of COVID-19 with a social distancing measure reported a substantial reduction in the transmission of COVID-19.^[26] Individuals with visual disabilities (low vision and blindness) are motivated to ensure social or physical distancing or to avoid crowded areas and restrict social movement, and to stay at home during the COVID-19 pandemic. If there is a need of going outdoor movement, the mobility long cane can be used to maintain the social distance norm, or if he or she requires a sighted guide for a short distance movement, then requesting the sighted person to hold

the other end of cane (not at the tip) will be a better option rather than direct body contact. They should be well informed and educated about a higher possibility of getting the infection due to the COVID-19 as well as the awareness and knowledge about the disease.

Personal factors

As a policy of lockdown, the Government of India advises certain measures to be implemented at the individual levels. For

example, wearing face or cloths masks, frequent hand wash with soap, limits unnecessary physical contact to others and surfaces with potentially contaminated, avoid touching to nose or eyes, etc. These measures are to minimize the risk of exposure to the virus causing the COVID-19. Therefore, it is important to adopt such new behavioural aspects in the best possible way during the pandemic in people with visual disabilities. Meanwhile, it is also critical to ensure their preferences and values when implementing such a personal behavioural change. Proper education, counselling and training need to be done keeping in mind their dignity and their unique ability.

Environment factors

The article 25 of The UN Convention on the Rights of Person with Disabilities reiterates the right of persons with disabilities to achieve the highest possible standard of healthcare without any form of discrimination based on disabilities.^[27] Therefore, on the line of the principle under The UN convention, persons with visual disabilities should not be ignored or left behind on their needs during the nationwide lockdown due to the COVID-19 pandemic. The optimization of environmental factors towards the improving the overall outcome of a person living with visual loss during the emergency lockdown needs collaborative works between visually disabled individuals, caregivers, family members, healthcare and rehabilitation professionals and community members or volunteers to a large extent who form a 'core groups' for the support. Persons with visual disabilities often rely on caretakers or assistants to perform their basic Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). These routine tasks can be managed through collaboration and coordination among these core groups. The government has responsibilities to streamline such an inclusive approach during the pandemic and encourages the community for inclusion. We propose the following recommendations while responding to the pandemic in the context of environmental factors:

- Supportive environment to meet the daily living requirements to the best possible within the context of choices made by disabled with the involvement of public or non-profit or profit private sectors
- Creating an enabling environment for caregivers or community members in providing essential services to visually disabled people during the lockdown, for example, special permission to commute
- Education and training about safety, social distancing, and personal protective measures to disabled, caregivers, family members during the pandemic, for example technique of wearing face mask
- Creating easily accessible to physical environment and infrastructures e.g., water source for hand washing, outdoor movement
- Assisting in accessing healthcare services and support as disabled needs during the pandemic or after contracted the disease
- Sensitization of the core groups about equal opportunities, dignity, respect while providing services to visually disabled
- Accessible formats (simple and easy to understand) for information about COVID-19 disease. The Government websites which have all information about COVID-19 are not accessible to blind and visually impaired people to read with a screen reader software or difficult to comprehend among PwVDs. To avoid the potential misinformation and misconceptions about COVID-19, catering PwVDs in

the dissemination on COVID-19 information with correct and appropriate formats or programs is of paramount importance. Such information will also help to reduce the fear and anxiety. Therefore, suitable formats for COVID-19 are essential through which PwVDs can access the information at any time. Of the many existing examples, one is Braille handbook for HIV and AIDS in Odisha^[28]

- Financial support to persons with visual disabilities during the lockdown periods either from government or any other external funding, e.g., Non-government Organisations
- Tele-health consultation to improve the awareness, knowledge and training to any of the family members or caregivers or community volunteers
- Arranging special services for students with visual disabilities stranded in schools for the blind. Lockdown also results in closure of many residential schools for the blind with shutting down the transportation. Students stranded in these schools need psychological counselling to relieve anxiety and fear about the COVID-19 and appropriate information about the emergency lockdown and the pandemic. They need to be supported in accessing health care services if required, educated all safety and precaution measures in the correct way. During the lockdown periods, special educators or teachers are not able to commute to the schools to educate and train students. PwVDs or students who came for vocational training in Delhi could not return to their hometown due to the lockdown. Tele-health consultation service helps finding an accommodation at either at schools or centres by run non-governmental organization, e.g., Vision rehabilitation & Training Centre, Community Ophthalmology, Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi runs tele-health and tele-rehabilitation services with and supports to PwVDs to get temporary accommodation during the lockdown periods (personal communication with rehabilitation staff).

Since a face-to-face interaction between healthcare providers and visually disabled or caregivers or family members is not possible during the lockdown, an alternative strategy to educate all necessary information through either tele-health or tele-conference methods should be planned. Videoconferencing is a preferable technique and would be more effective than other mode of communication. The rehabilitation professionals or healthcare team can take a lead to establish a communication facility since the hospital is the first contact point for a person with visual loss. The health or rehabilitation team should initiate to make a plan with core groups for inclusive services, considered to be the most appropriate to care for the disabled at the time of the pandemic. The Government of India should consider an opening of a special communication platform for visually disabled or disabled for easy accessing healthcare needs. During the lockdown, the government should provide special permission to allow to commute for the caregiver if any. A smartphone application support to disabled which can connect with a registered volunteer in the application either in the video or audio calls can be launched. For example, the "Be My Eyes" application helps individuals with visual disabilities to connect with the first available volunteer (sighted) who registers in the application through video calls, thereby, assists the disabled for emergency or any other assistance if needed.^[29]

Conclusion

The current COVID-19 pandemic, followed by the national lockdown to mitigate the transmission of the virus poses many

challenges, including healthcare access, to the life of people living with visual disabilities. A sudden disruption of support system and assistance to these groups of individuals will have a serious impact on their health and well-being, daily living activities, socio-economic, livelihood, and finally compromise on the quality of life and may even endanger their lives. Ensuring optimum health and wellbeing outcomes among persons with visual disabilities is critically important during the present and post-pandemic. These serious impacts can be avoided or minimized through inclusive services planning, involving persons with disabilities, caregivers, family members, and healthcare providers, along with the community to a large extent (core group). The government or any other organizations can take the lead to initiate such a disability inclusive approach along with improving healthcare access while planning for pandemic responses. Indeed, the present COVID-19 pandemic provides an opportunity to health care planners and decision makers of governments, non-government organizations or other private sectors, for a need of reform towards disability inclusiveness, whenever there is an emergency lockdown in the future. Impacts due to lockdown can be minimized if planning and policy are in place before any emergency happened.

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Conflicts of interest

There are no conflicts of interest.

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