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Effects of COVID-19 on people with intellectual disabilities and the ICT's role

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Abstract. The pandemic affected the life of all humanity. When the pandemic hit the world in early 2020, support systems failed everywhere, eventually. A medical support, regardless of country, was not enough to deal with the pandemic and deaths (Andrews et al., 2020).Another area that affected lives was people's economic status. In the US, all the jobs created since the last recession disappeared within six weeks. Thus, the unemployment rate soared in just a few weeks, which not only collapsed the US economy but also made it difficult to take measures during the pandemic. Human contact has been reduced and people have been forced to stay at home as one of the health measures to combat the spread of the coronavirus. And this causes people a lot of stress and anxiety (Chaturvedi, 2020).Lack of awareness was another factor that made life worse for all mankind. People were asked to take security measures, but they were not allowed full access to them, and therefore, they did not know what to do. This caused panic as they knew their lives were in danger but did not know what to do about it (Gulati et al., 2020). COVID-19 has caused more than 700 thousand deaths worldwide so far. And this has made people live in terror and fear of death. This situation has caused them to repeatedly ask for help and fear that governments cannot handle a pandemic of this magnitude. This is the effect it has on the audience. The effects are even more severe for people with disabilities. They are more vulnerable than anyone else since they were already living at the mercy of other people and now those people are worried about their lives. Thus, this help was taken away from them, leaving them in the worst condition ever (Annaswamy et al., 2020).

Keywords. Risks, inequalities, problems SEN, disabilities, COVID-19 pandemic, ICTs

1. People with intellectual disabilities and pandemic

The global COVID-19 pandemic has spread rapidly around the world infecting millions and testing countries' healthcare systems. In the course of the pandemic, the vulnerabilities of certain groups of people such as the elderly, pregnant women and the homeless have been highlighted. Less obvious was the situation of people with intellectual disabilities who have a range of vulnerabilities including health problems, mental disorders, and social disadvantages. Meeting the need to protect people with intellectual disabilities from infection and supporting those who are infected is a challenge for care services often due to the unique characteristics of people with intellectual disabilities to adapt to new circumstances. The concern of families and caregivers is that people with intellectual disabilities may be forgotten as the pandemic unfolds and that responses should not exclude people with disabilities (Berger et al., 2020).

People with intellectual disabilities are at greater risk of infection for several reasons including physical health problems, social conditions, and cognitive limitations. The prevalence of comorbid physical disorders is higher among people with intellectual disabilities and their life expectancy is lower than that of the general population with a standardized mortality ratio. People with intellectual disabilities and genetic disorders may suffer from inherited heart, inborn errors of metabolism, or respiratory diseases. Respiratory infections are the leading cause of death in people with intellectual disabilities, especially among people with Down syndrome. The level of obesity is higher among people with intellectual disabilities increasing the risk of developing severe forms of infection from COVID-19. Overall, the prevalence of physical and mental disorders in people with intellectual disabilities is higher than in the general population (Perera & Courtenay, 2018).

People with intellectual disabilities live in accommodations such as care homes, supported living placements, or inpatient services which are essentially centralized settings. Many live with family members who are usually elderly parents or caregivers whose health status is often compromised. In community settings, people with intellectual disabilities often require high levels of support from family members or paid carers which increases their level of social contact (Perera et al., 2020).

Generally, people with an intellectual disability live in the community with support from family members or paid carers depending on the level of support needed. People with mild intellectual disability (IQ 50-70) are likely to need less support in undertaking activities of daily living compared to those with moderate to severe levels of intellectual disability. Their participation in community activities is good with access to community activities and some people are in paid work. People with intellectual disabilities often follow their routines and need to be prepared for changes. If they are not, sudden changes can increase their stress level causing behavioural challenges and possibly mental health conditions.

In times of pandemic, people with intellectual disabilities are likely to find it difficult to defend themselves and rely on others to protect them from infection. For those people with mild intellectual disabilities who function in the community with little support, their cognitive ability may prevent them from complying with public health measures to reduce spread, for example, self-isolation, hand washing, or physical distancing from others. others. Such social behaviour requirements can be difficult to understand and apply especially for people with challenging behaviours that may put other people with intellectual disabilities and their carers at increased risk. In pursuing such measures, it can be difficult for carers to support people for whom curtailing their already limited freedoms could be problematic, especially when their routine has been disrupted, for example, attending to regular daily activities. For people with autism, isolation, and physical distance can increase their stress levels due to a change in their habits. They may become overly focused and then overwhelmed by the volume of information related to COVID-19 in the media and on social media. Such behavior may increase their levels of anxiety and paranoid thinking, leading to behavioral difficulties, thereby further reducing their ability to engage in social distancing behaviors.

Relevant and informative information about the infection is vital in supporting people with intellectual disabilities to adopt behaviors to reduce the spread of the infection. They may rely on others to inform them using the information in accessible formats to understand the infection and how to reduce the risks of infection. Providing accessible information to caregivers and people with intellectual disabilities is essential especially when literacy skills are limited (Meier et al., 2015).

With the trend of moving from the hospital setting to the community setting, people with mild intellectual disabilities are living more independently in the community. Achieving more independent living with low levels of support is positive under stable conditions, but with a sharp and rapid change in societal expectations, such as in a pandemic, people's ability to adapt and be flexible is tested, potentially stressing their resources to adapt to new standards of social behaviour expected of all. People with intellectual disabilities are likely to find it difficult to tolerate the conditions of quarantine and their condition may be worsened by not understanding its importance and consequences and not following the restrictions. Therefore, it is important to use effective communication methods to inform people that it is likely to have positive effects on their resilience in tolerating limitations in their usual activities (Brooks et al., 2020).

In a short period, non-governmental organizations responded to support people and caregivers by creating materials on COVID-19 and people with intellectual disabilities. Specific guidelines were disseminated by family caregivers, volunteer groups, and guidance professionals in accessible formats to facilitate understanding. Voluntary organizations speak up for people with intellectual disabilities who cannot speak for themselves and have been effective in raising awareness among government actors about the plight of people with intellectual disabilities, challenging the assumptions made about them. The NICE guideline originally suggested using the Clinical Frailty Scale to assess a person's suitability for escalation to more invasive medical treatments. The guideline was challenged by caregivers who complained that young people with intellectual disabilities and COVID-19 could suffer because of the discriminatory clinical application of the scale that denies them medical care because of their disability (de Oliveira et al., 2016).

The impact on families and carers is particularly heightened when the usual support of schools, daycare, or respite care has been withdrawn due to the pandemic. Support from local authorities and government agencies is particularly needed to support families at a time when they are likely to be under a lot of pressure to provide 24-hour care that would normally be shared with paid carers. The impact will be seen in families' finances and their well-being and mental health. Support organizations recognize the need for additional support for families without whom the risk of breakdown is high, possibly even leading to the need for hospital admission due to increasingly challenging behaviour.

In addition to the stress associated with the fear of illness, the social distancing and quarantine measures in place can have an impact on some people's mental health. The mental health of people with an intellectual disability can be affected in similar ways, possibly even more so due to the demands of quarantine potentially causing problematic behaviours. Autism or ADHD in a person with an intellectual disability can worsen the situation where their normal routines cannot be fulfilled and restrictions are imposed on their physical environment. Caregivers of people with intellectual disabilities may need to isolate themselves, which can lead to a collapse of the person's care network resulting in worsening behaviour problems (Narzisi, 2020).

Increased anxiety and paranoia may be observed in exceptional circumstances, such as periods of social exclusion. People with intellectual disabilities and autism may obsess over information related to COVID-19, which would be understandable given that obsessive-compulsive thinking and obsessive-compulsive disorders are common among people with autism. They may experience excessive levels of anxiety and paranoid thinking resulting in challenging behaviour. Co-occurring obsessive-compulsive disorders could be exacerbated by the need for meticulous personal hygiene. These stimuli can increase high levels of excessive stress and lead to mental illness. Many behavioural and psychological interventions cannot be implemented due to significantly reduced face-to-face work by health and social care staff further complicating access to appropriate interventions (Meier et al., 2015).

The rate of infection at the community level in many countries is uncertain in the absence of strategic and preventive testing for the virus in general. Evidence of harm to older people in community housing highlights the rapid impact that contamination can have on groups of people living together. There are data on infection rates among people with intellectual disabilities in community or inpatient services. Where there is an infection, support staff need to adapt their practices, but many feel let down by their healthcare system in providing adequate protection with personal protective equipment (PPE) and the skills to care for infected people. Care staff is expected to acquire new skills typically practiced by nurses and apply them to support infected people to remain in the community to reduce pressure on institutional inpatient services. Practices such as care in specially designed isolation facilities and infection control measures are required to manage infected individuals and limit the spread of the virus. Implementing these measures can be a challenge in providing care to people with intellectual disabilities who are young and healthy and who may not understand the importance of adherence to infection control. Services can also be challenged when staff is absent due to illness or the need to self-isolate. Access to personal protective equipment, as recommended by WHO, for caregivers in the community is an issue due to equipment shortages globally (Park et al., 2020).

Specialist clinical services for people with an intellectual disability need to adapt to the changing environment in which they provide care either through community services or specialist inpatient services. Clinicians practicing physical distancing are advised not to meet with people to reduce the risk of infection and must rely on new methods of care delivery. The use of technology helps clinicians and patients visualize each other, but not all people with intellectual disabilities have access to technology, and older caregivers may not be proficient in its use, thus creating a barrier for their members. their families to receive immediate care.

The issue of problem behaviour as a result of social exclusion measures in the pandemic may be difficult for carers to manage using the individual's existing positive behaviour support plan and plans should be reviewed during the pandemic. This can lead to a greater reliance on medication to support a person to remain in their current residence, which is counter to initiatives to reduce the use of psychotropic drugs among people with intellectual disabilities. Inpatient services are affected by limitations in accessing the level of community support that is often a key element in people's rehabilitation for community living (Branford et al., 2018).

The risk of harming others through various forms of abuse is high among people with an intellectual disability, as evidenced by major scandals at Winterbourne View Hospital and Whorlton Hall. Institutional structures are in place to protect people who are abused or at risk of abuse. The increase in domestic violence in the general population during the pandemic should raise the alarm to services that people with intellectual disabilities may be at greater risk. Changes in work practices to comply with physical distancing and the use of remote communication may result in fewer opportunities for clinicians to meet with individuals to gain insight into an individual's safety. Standard safety assessment methods may not be feasible for clinicians and others in an individual's social network, and other means of detecting abuse must be developed to protect people from harm. The conduct of safeguards investigations based on the collection of information about allegations of abuse may be affected during the pandemic and further complicate investigative processes. There is likely to be a greater reliance on the use of technology to conduct interviews and where face-to-face contact is necessary, physical distancing and the use of PPE will be necessary (Galea et al., 2020).

2. Effects of the pandemic

The direct effects of the pandemic on people with intellectual disabilities are currently unknown, as no data are available on COVID-19 infection specifically for people with intellectual disabilities. The long-term effects of the virus on the health of people with intellectual disabilities can only be speculated, as the potential effects of COVID-19 on newborns and unborn children are uncertain. Newborns who have tested positive for COVID-19 have recovered, but the potential long-term effects of the virus on fetal development are unknown. Using evidence from other populations infected with other viruses is valid, but the findings do not always apply to different populations. Tracking people with intellectual disabilities infected with the virus through data collection in the future is necessary to develop the evidence base on how it affects them.

The social impacts of the pandemic are currently evident, but what about its long-term effects on health and well-being? The potential impact on the mental health of the population is obvious, but it is uncertain how the experience of the pandemic will affect people with intellectual disabilities who may experience social upheaval in unique ways relative to other populations. For clinical staff supporting people with intellectual disabilities, new ways of working are likely to be adopted that optimize the use of technology in the delivery of clinical care which could lead to more efficient and streamlined services. Training of staff in the use of new technology and new practices are required to ensure they are effective as well as safe from privacy breaches.

How will people with intellectual disabilities adapt to new practices with potentially fewer face-to-face encounters and greater reliance on technological communication? It will be essential for paid carers and family carers to have an applicable level of IT training when interacting not only with health services but also with care services. Technology should ensure that it is accessible to people with cognitive disabilities and limited communication using software applications (Vouglanis, 2020). Research into the usefulness of adaptive technology will be required to determine what is effective and what people with intellectual disabilities prefer to use and how. Their participation in technology research will be essential that will help them in the long run (Zeng et al., 2020).

The use of PPE could deter people from engaging in clinical care. Such changes are likely to test people's resilience to adaptation and may require additional support in adapting to the changes in practice. It is likely, however, that the use of PPE will be necessary for future pandemics. Educating people with intellectual disabilities in the use of PPE by their caregivers will help prepare them for the social adjustments that need to take place when pandemics occur.

To provide better protection in future pandemics, it is important to have a good knowledge base about effective protective and therapeutic interventions. Such knowledge can only be developed through thorough and methodologically robust research approaches to expand the evidence on COVID-19 in people with intellectual disabilities. Protecting vulnerable people, especially those with intellectual disabilities and their carers, should be a priority in any planning for future pandemics. An in-depth review of the range of actions to respond to the pandemic is needed to learn from the global experience and to prepare and plan for the future. Educating caregivers and people with intellectual disabilities about the signs of infection with COVID-19 along with behavioural measures to reduce the spread of infection is important. Mental disability clinical services will play an important role in spreading knowledge and education about COVID-19. To gather information about the impact of the pandemic on the lives of people with intellectual disabilities, and capture meaningful and relevant experiences, a co-productive approach of working with families, carers, and people with an intellectual disabilities will be necessary.

The disease COVID-19 has had a profound impact on populations worldwide. Attention has focused on those most physically affected by the pandemic. The experiences of the pandemic by people with intellectual disabilities need to be studied to understand the impact on their lives and how they were protected from infection. It is important to learn from the pandemic how to protect people with intellectual disabilities because of their inherent vulnerability to infection and the social consequences of measures taken to manage the pandemic. When it comes time to review the course of the pandemic, people with intellectual disabilities and their carers mustn't be ignored to ensure that they are empowered to deal with such incidents in the future (O' Leary et al., 2018).

Social inclusion is associated with improved well-being and quality of life for both the general population and the population of people with intellectual disabilities. Social inclusion can include social roles and participation in community and interpersonal relationships. It is a social construct, which is subjective and dynamic and which can vary according to individuals' personal and environmental circumstances (Overmars-Marx et al., 2014).

Older adults with intellectual disabilities have many of the high-risk characteristics associated with an increased risk of infection from COVID-19, including living in group homes, mental health problems, and reduced mobility. They also have known risk factors for adverse infection outcomes, including increased age, comorbidity, and the prevalence of specific high-risk comorbidities such as obesity, cardiovascular disease, high cholesterol, and epilepsy. However, recent findings from the first social exclusion (lockdown) due to COVID-19 in Ireland suggest that older people with intellectual disabilities may have avoided the worst effects of the COVID-19 infection. However, many studies internationally have highlighted the increased risk of severe infection, with adjusted mortality rates for people with intellectual disabilities 6.3 times higher than the general population and a 10-fold increased risk of death for people with Down syndrome. In addition, the age at which COVID-19 affects people with intellectual disabilities has also been reported to be lower than in the general population. The median age of death from COVID-19 infection has been reported as 64 years for people with intellectual disabilities and 51 years for people with Down syndrome (Huls et al., 2020).

3. Conclusions

Social exclusion measures related to COVID-19 mean that people with intellectual disabilities have been affected by service closures and reduced working hours, disrupting their normal activities and important social opportunities. There are increased mental health difficulties and behaviours of concern among people with an intellectual disability and increased vulnerability to exploitation or abuse where social networks are absent or more widely restricted.

Compared to the general population, people with intellectual disabilities are generally relatively excluded from a range of social measures, including relationships and community participation, putting them at risk of reduced quality of life and well-being.

Therefore, any potential disruption of existing social networks and participation, as has occurred in the COVID-19 crisis, has the potential to have a disproportionately negative impact on their well-being. Technology may have the potential to bridge this gap.

Finally we underline the importance of the digital technologies in education domain and especially for people with disabilities that is very productive and successful, facilitates and improves the assessment, the intervention, the educational procedures and learning disabilities via Mobiles which brings educational activities everywhere [24-33], various ICTs applications which are the core supporters of education [34-69], AI, STEM & ROBOTICS which raise educational procedures into new levers of performance [70-88], and games which transforms the education in a very friendly and enjoyable interaction [89-97]. Additionally, the enhancement and combination of ICTs with theories and models of metacognition, mindfulness, meditation and emotional intelligence cultivation [98-143] as well as with environmental factors and nutrition [20-23], accelerates and improves more over the educational practices and results, especially in the support of people with disabilities and more specifically in the COVID-19 era.

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