

The impact of the COVID-19 pandemic on occupational performance among people with disabilities and strategies for bouncing back: A rapid scoping review

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ABSTRACT

In March 2020 the World Health Organisation (WHO) declared the coronavirus outbreak to be a pandemic. Governments implemented responses including lockdowns and social distancing requirements, these led to significant occupational disruption globally. This study focuses on how occupational performance among people with disabilities was affected by the COVID-19 pandemic and possible strategies for recovery.

A rapid scoping review methodology was used following the Preferred Reporting Items for Systematic Reviews and MetaAnalysis extension for Scoping Reviews (PRISMA-ScR) checklist. Thematic analysis was used to synthesise the collated data.

Occupational performance among people with disabilities was affected in areas of work, education, daily routines, interpersonal relationships, and occupations for maintaining health and well-being. Non-inclusive policy frameworks were reported and strategies for recovery are suggested.

Findings imply the need for occupational therapists to take on the roles of facilitators, advocates, and researchers for promoting occupational engagement among people with disabilities including Long Covid.

KEYWORDS

- Occupational performance
- COVID-19
- Long COVID
- people with disabilities
- occupational science
- occupational therapy
- occupational disruption

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Introduction and background literature

In March 2020 the world health organisation (WHO) declared the coronavirus outbreak to be a pandemic (WHO, 2020). As a result, many governments began to institute legislations and guidance for controlling transmission of infection and management of those infected. The COVID-19 pandemic responses which included national lockdowns, social distancing, and use of protective personal equipment (PPE) led to significant occupational disruption across the world. From an occupational science and occupational therapy perspective, such occupational disruptions are bound to result in poor health outcomes as people are prevented from meaningfully engaging in occupations that they value, need to do, and want to do (Wilcock & Hocking, 2015). Evidence shows that during public health emergencies and disasters the vulnerable population groups such as people with disabilities are often the worst affected due to historical marginalisation, exclusion, and disempowerment (WHO, 2011). Hence, the need for this scoping review to synthesise how occupational performance and engagement of people with disabilities was affected by the COVID-19 pandemic in order to identify strategies for promoting their participation and engagement in self-care, leisure and productivity occupations including people with Long Covid.

Occupational performance is an essential component of human survival, growth and development regardless of disability status. Occupational performance is the ability to perceive, desire, remember, plan and execute roles, routines, tasks and sub-tasks in all areas of occupation whilst responding to both personal and environmental demands. Time use is important in achieving occupational balance; however, the COVID-19 pandemic and the instituted responses are bound to disrupt standing routines and consequently impact negatively on occupational balance (Pekçetin & Günal, 2021). In these disruptions, occupational transitions are an important concept to explore, regarding how people adapt and adjust to change. Successful negotiation of life changes needs to be occupation-based (Nhunzvi et al., 2020) strategically positioning occupational therapy for a significant role in facilitating recovery from the COVID-19 pandemic.

The underpinning philosophy in occupational therapy is that engaging in meaningful occupations leads to better health outcomes and well-being. Generic occupational therapy models such as Canadian Model of Occupational Performance and Engagement (CMOP-E), Person-Environment-Occupation (PEO) model, Model of Human Occupation (MOHO) and the associated frames of reference focus on the person, their occupations, and the environment in which occupational performance takes place (Turpin & Iwama, 2011). Changes to the environment because of the covid pandemic are expected to have a significant medium to long term impact on daily life of people with disabilities (ONS, 2021). This implies a need for applying the occupational lens to understand how occupations of people with disabilities have been affected by the COVID-19 pandemic responses as well as the COVID-19 infection for those recovering and/or experiencing Long Covid. Occupational disruption due to the COVID-19 pandemic has led to occupational losses and changes to the meaning attached to different

occupations by different people. Some people will need to learn or relearn certain occupations while others will require adaptative changes to their occupations and environment.

Defining disability is complex and in this study the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) definition of disability is used which defines persons with disabilities as 'those who have long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others' (United Nations 2006[Q4]). The purpose of the UNCRPD is to protect and promote the human rights and fundamental freedoms of people with disabilities. This focus directly supports the concept of occupational justice which focuses on promoting the rights to occupational participation for every individual (Chichaya et al., 2020). Globally, people with disabilities are disadvantaged from participating in meaningful occupations at an equal level with the general population. This places them risk of occupational marginalisation, occupational deprivation, occupational inconsideration, and occupational alienation (Townsend & Polatajko, 2013 [Q5]; Chichaya et al., 2019). These forms of occupational injustice often result in a vicious cycle of occupational imbalance and poor health outcomes.

Therefore, this study aims to synthesise evidence on how occupational performance among people with disabilities has been affected by the COVID-19 pandemic and the possible strategies for recovery.

Method

A rapid scoping review methodology was used for this study. Rapid scoping reviews allow for researchers to quickly identify sources of evidence, identify concepts, and clarify knowledge gaps. Therefore, this methodology is ideal for the study focusing on COVID-19 pandemic considering that the pandemic situation has been rapidly changing, and new evidence is being continuously generated as the pandemic evolves. The Preferred Reporting Items for Systematic Reviews and MetaAnalysis extension for Scoping Reviews (PRISMA-ScR) checklist was followed as a guide to ensure that all key aspects of a scoping review are addressed in this study (Tricco et al., 2018). Obtaining ethical clearance from the university for this scoping review was not necessary as no participants were directly involved and publicly available published records were used.

Evidence was searched from databases including EBSCO, Cochrane Library, Scopus, Global Health, Web of Science, Pubmed, Google Scholar, PLOS and OTseeker. The three-step strategy proposed by the Johanna Briggs Institute (JBI) (Peters et al., 2020) was used for searching literature. An initial limited search in a few databases was done using words in the title followed by a search in several databases using all identified key words and finally reference lists of identified reports were searched. Boolean operators, MeSH terms and truncation were used in the search strategy. The key words which made up the search strategy include *occupations, activities, hobbies, work, self-care, toileting, leisure, productivity, socialising, employment, chores, activities of daily living, instrumental activities of daily living, performance, learning, play, COVID-19, SARS-CoV-2, coronavirus, Long covid, coronavirus pandemic, people with disabilities, disabled, chronic conditions, impairments, challenges, difficulties, barriers, limitations and hardships*.

Unlike in systematic reviews where published articles are the unit of synthesis, the unit of analysis in scoping reviews include grey literature and therefore, reports and documents from credible websites such as those for governments and WHO were also searched for inclusion in the study. The inclusion criteria focused on evidence sources that reported on the situation of the lives of people with disabilities during the COVID-19 pandemic. Evidence sources from all parts of the world and covering all types of disabilities met the inclusion criteria and authors judged the quality of reports following reviewer calibration. The use of critical appraisal tools was considered not necessarily due to the scarcity of literature and the need to use a wide range of available records, not only peer reviewed full articles. This conforms with guidance

for scoping reviews unlike systematic reviews where critical appraisal is a requirement (Tricco et al., 2018). Literature on people with disabilities who were infected by COVID-19 and those who were affected by the responses to the pandemic without being infected was included. Two limiters were applied for language and date. Firstly, literature that was not in English was excluded from the study due to time constraints associated with translation. Secondly, reports dated before 2020 were excluded, reports between January 2020 and July 2021 were used. Figure 2 presents PRISMA 2020 flow diagram showing the process followed to short list literature for inclusion in this study (Page et al., 2021; Moher et al., 2009).

A data extraction form was designed and agreed by the researchers. The sections of the data extraction form used for charting the evidence included: country of focus, purpose, target population, key findings, and key recommendations as shown in Figure 1. The first and second authors independently completed charting of evidence from the selected literature sources which met the inclusion criteria using the standardised data extraction form. Following charting of evidence, all researchers discussed the findings, resolved disagreements, and agreed on the sub-themes and themes. The subthemes and themes were developed using thematic analysis whereby codes were initially identified from the extracted data, these were then merged to form subthemes which were further synthesised into the key themes. The researchers shared writing up of the results and all contributed to writing of the discussion and recommendations.

Figure 1. Data extraction form template.

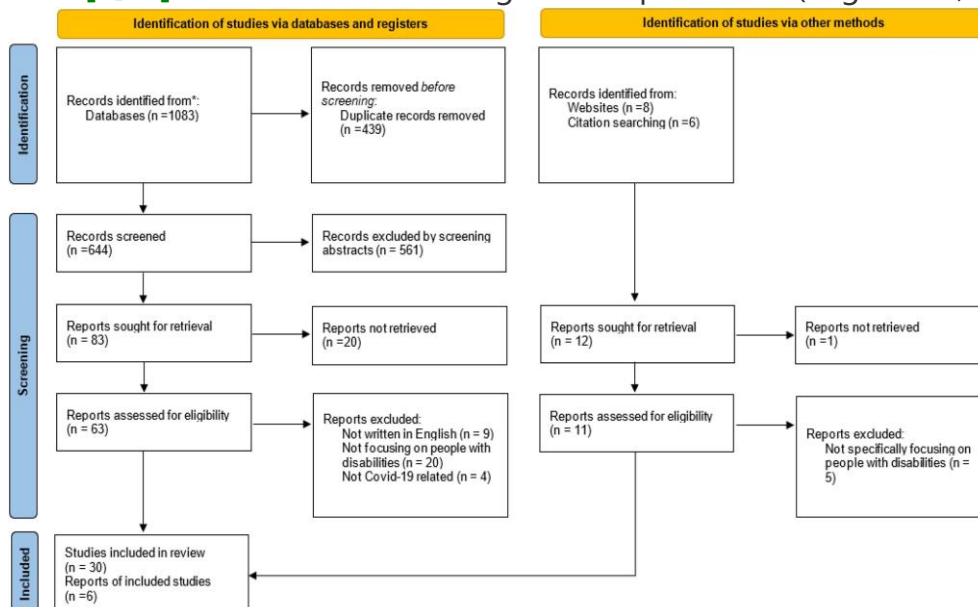
Author, Title and Date	Country of study	Aim/Purpose	Study population focused on	Key Findings: Identified challenges	Key Recommendations

Findings

Study selection

Thirty-six records were included in the study for further analysis and synthesis. Figure 2 shows how the 1083 records identified from databases and the 14 identified via other methods were further screened leading to 36 records being included.

Figure 2. [Q21]PRISMA 2020 flow diagram Adapted from (Page et al., 2021).



Study characteristics

Table 1 provides a summary description of evidence covered by records that were included in this study. The geographical coverage of the reports, types of disabilities reported on, and the main purpose of the reports are presented. The records covered six continents thereby providing a global perspective on how the lives of people with disabilities were impacted by COVID-19. Furthermore, the included records focused on a wide range of disabilities including those related to sensory, physical, mental and developmental impairments across different age groups. Most of the reports focused on a specific type of disability and the purpose of the studies were mainly to describe the experiences of people with disabilities and their families during the Covid pandemic. Data synthesis yielded six themes which are presented in the subsequent sections followed by a discussion and suggested strategies for recovery.

Table 1. Focus of the included reports.

Description	Details
Geographical coverage of the evidence used	Australia, Botswana, Canada, China, Colombia, Ethiopia, France, Germany, India, Iran, Italy, Spain, USA, United Kingdom, Uganda, Zimbabwe
Types of disabilities reported on	Multiple disabilities, visual impairment, hearing impairment, learning disabilities, physical disabilities, autism, neuro-developmental, chronic health conditions, eating disorders, traumatic brain injuries, depression, anxiety and Long Covid
Focus areas of the reports included in the study	Lived experiences of people with specific conditions and their family members; Impact of COVID19 on daily life; Service provision for people with disabilities; Perspectives of service providers

Impact on routines and habits

Both the COVID-19 restrictions and infection disrupted people's daily routines and habits, with restriction causing a much wider disruption. Occupational disruption for those who had covid infection were mainly due to persistence of symptoms which made occupational performance difficult especially in daily routines. These symptoms have directly been linked to worsening quality of life and inability to perform routine daily activities. For example, in a retrospective study of COVID-19 survivors, 75% of survivors reported at least one Instrumental Activity of Daily Living (IADL) problem such as housekeeping, food preparation, shopping and laundry as measured by the Lawton's IADL Scale. More than one third reported moderate dependence on Activities of Daily Living (ADLs) such as bathing, dressing, toileting, and transfers as measured by the Barthel Index (Zhu et al, 2020).

Productivity routines like going to work and going to school were significantly disrupted by the COVID-19 restrictions. Some parents had to work from home and home school their children at the same time which resulted in routine disruption and blurring of boundaries between school and home causing stress to both children and parents [Q6] (Canning and Robinson (2021). Similarly, 73% of care givers reported that the routines of children with disabilities that they supported were disrupted due to confinement at home (Masi et al., 2021). Other routines such as daily exercise were disturbed, in some situations sleep routines were disrupted by up to 68% due to either chronic pain or spending more time on social media or watching television especially for young people with physical disabilities (Batsis et al., 2021; Masi et al., 2021). Studies also revealed an increase in smoking, alcohol intake, pain medication intake this was for both people with physical and mental health conditions (Morrow et al., 2021; Nieto et al., 2020; Batsis et al., 2021). In another study, people with eating disorders

experienced more binge eating, purging, restriction and exercise behaviours during the pandemic (Branley-Bell & Talbot, 2020).

Impact on occupations that involve seeking and maintaining health and well-being

In this scoping review seeking and using health services was considered to be an aspect of self-care occupations. Majority of the records in this study discussed the negative impact the pandemic has had on persons with disabilities regarding their access to healthcare and social care services in order to maintain or improve their health and well-being (Qi & Hu, 2020; Costa et al., 2021; Samboma, 2021). The reasons included inability to physically access services face-to-face for social distancing reasons (Jumreornvong et al., 2020; Smith et al., 2020) and services adopting telephone or virtual appointments that were not always appropriate and accessible for people with disabilities to participate in (Mbazzi et al., 2020; Costa et al., 2021; Morrow et al., 2021; Tavanai et al., 2021). Others were afraid of attending in-person appointments to avoid contracting the virus with the insight that people with chronic conditions were at a higher risk of infection and mortality (Singh et al., 2021). Some health services were curtailed or suspended (Qi & Hu, 2020; Costa et al., 2021; Samboma, 2021). Shortages and redeployment of staff that provide health and social care also impacted the availability and quality of care, especially when staff had to go into isolation or take sickness leave (Brotman et al., 2021; Comos-Herrera et al., 2020[Q7]).

Studies show that low numbers accessed rehabilitation services during lockdown for example 22% maintained medical care, 48% and 27% continued physiotherapy and occupational therapy respectively (Canning & Robinson, 2021; Brotman et al., 2021; Paulauskaite et al., 2021). Some people with disabilities decreased their health seeking behaviours as they did not want to engage with services as they felt services were less supportive to people with disabilities. For example, Abrams and Abbott (2020) described how for some people, having a disability or health condition meant that they were less likely to receive treatment for COVID-19 when resources such as ventilators were scarce, and these were prioritised for 'able-bodied' individuals without pre-existing chronic conditions. This was further echoed by Thelwall and Levitt (2020) from an analysis of tweets posted by persons with disabilities on Twitter. Some people with disabilities felt alienated when they were contacted by their health service providers requesting them to complete do not resuscitate (DNR) forms as this gave them the impression that their lives were less important and as a result some did not want to engage with health services. In some situations where contact was made with health care providers communication was hindered by use of Personal Protective Equipment (PPE) and social distancing especially for those with hearing and visual impairments.

Many people experienced or were at risk of decline in their physical and/or their mental well-being during the pandemic across a range of disabilities, age groups and geographical locations (Cacioppo et al., 2020; Jumreornvong et al., 2020; Machado et al., 2020; Nieto et al., 2020; Amor et al., 2021; Batsis et al., 2021; Brotman et al., 2021). Similarly, during lockdowns opportunities for engaging in occupations that promote health such as physical exercise became significantly limited for people with disabilities with closure of places like community swimming pools and parks. Long Covid has emerged as a disabling condition characterised by persistence of symptoms or development of new symptoms after SARSCoV-2 infection (Carfi et al., 2020; Tenforde et al., 2020). Reported symptoms of Long Covid impacting occupational performance include fatigue, breathlessness, joint pain, muscle weaknesses, chest pain, impaired memory and executive functions persisting over a weeks or months (Carfi et al., 2020; Raveendran et al., 2021). These symptoms can fluctuate or relapse as time progresses. The current WHO case definition defines Long Covid or Post COVID-19 Condition (PCC) as a 'condition occurs in individuals with a history of probable or confirmed SARS CoV-2 infection, usually three months from the onset of COVID-19 with symptoms and that last for at least two months and cannot be explained by an alternative diagnosis.' (WHO, 2021).

Disruption of participation in education

Occupational disruptions in educational participation emerged as one area where people with disabilities were disproportionately affected. These disruptions ranged from access to resources, to difficulty utilising changed platforms of delivery such as virtual and online services (Banks et al., 2021; Tavanai, 2020–1[Q8]; Paulauskaite et al., 2021; Zhu et al., 2021–0[Q9]). Some studies in this review reiterated the historical positioning on the issues of barriers to education among persons with disabilities. For example, Bartz (2020) posited that the COVID-19 pandemic exacerbated barriers to do with access to learning environments and resources within stigma-heavy environments. The absence of trained support staff to assist learners with special needs did not help the situation (Mbazzi et al., 2020). Financial disruptions had a knock-on effect on educational participation of people from disadvantaged backgrounds often including children with disabilities (Mbazzi et al., 2020). The financial challenges faced by families of children with disabilities meant they could hardly afford the hightech demands of new learning platforms and the affected children missed out their educational participation.

Some of the educational participation disruptions involved children, young adults and their parents having to navigate their way through the new online learning environment and home schooling when face-to-face teaching ceased (Bartz, 2020; Cacioppo et al., 2020; Mbazzi et al., 2020; Canning & Robinson, 2021; Amor et al., 2021; Paulauskaite et al., 2021; Running Bear et al., 2021). Accessibility was considered one of the main contributing factors to educational participation disruptions, with some students lacking appropriate internet access or learning and IT resources (Mbazzi et al., 2020; Running Bear et al., 2021). Some learners with mostly visual and hearing impairments found it difficult to follow conversations or lessons with background noise interferences, being unable to hear, see or lip-read or comprehend instructors' body language online (Bartz, 2020; Amor et al., 2021). However, some learners, especially those with mild learning difficulties who were used to online learning didn't experience as much disruptions as those to whom the concept of online learning was new (Amor et al., 2021). Not only did the cessation of face-to-face school and education limit their occupational performance whilst learning, but it also limited the social interactions and opportunities for play that children and young people need to develop and reach their potential.

Loss of employment and changes to work participation

People who experienced Long Covid were likely to either not return or delay re-entering the workforce due to persistent symptoms like fatigue and pain. In a study by Smith et al., 2021, p. 33% returned to work after three months and 67% returned after 12 months from date of discharge, while another 33% did not return to driving after one year due to Long Covid. A sense of occupational alienation emerged for people who worked in sectors that were considered as non-essential and had to be closed for example workers in the hotel and tourism industry. Loss of financial support is linked to job losses and difficulties experienced getting to work because of increased transport costs or limited public transport (Mbazzi et al., 2020). Given that people with disabilities especially women in low – and middle-income countries are more likely to work in the informal sector which lacks job security and financial protection, this population group experienced significant financial losses (Banks et al., 2021; Jalali et al., 2020).

Work participation for many people with disabilities was disrupted as work from home mandates were enforced. In Spain 68% reported suffering a significant interruption to their jobs and only 4.2% experienced temporary layoffs and resumed work (Amor et al., 2021). Other people with disabilities had to go on forced leave because of poorly designed or absent remote working services (Smith et al., 2020; Banks et al., 2021). The rapid move to gig economies during the pandemic presented people with disabilities with an opportunity to enter the gig workforce where they can adjust their work patterns according to their abilities in their home

environments, however, lack of training and resources to get started was the challenge (Harpur & Blanck, 2020).

Impact on communication and participation in relationships

Communication barrier has been an ongoing concern of persons with & et disabilities (Thelwall 2020[Q10]). The onset of COVID-19 pandemic, complicated Levitt al. communication barriers affecting occupational performance of persons with different impairments due to the introduction of COVID-19 guidelines which required use of online resources, facemasks, and social distancing (Tavanai et al., 2021; Crume, 2021; Thelwall et al., 2020). Facemasks and social distancing by healthcare professionals created a communication barrier while poor internet connection and in some situations background noise when using online resources presented a significant challenge for persons with hearing impairments (Tavanai et al., 2021). Communication barriers led to a reduction in social interactions, anxiety, and withdrawal from occupational performance stress and exhaustion (Crume, 2021; Necho et al., 2020). People with visual impairments who usually depend on their sense of touch to navigate the environment found mastering the environment difficult due to fear of contracting infection from the surfaces. Similarly, social distancing guidelines posed a challenge for those with visual impairments and required assistance from a guide as this could not be done while socially distanced.

There was a mixed impact of COVID-19 on family relationships. For some families, the lockdown enabled family relationships to be further strengthened as families spent more time together. As a result, for some people with disabilities with care needs could easily get help at home. Contrary to this, people who had abusive or strained family relationships experienced significantly higher rates of abuse and distress compared to the pre-pandemic situation. Younger people with disabilities in middle and high-income countries found it easier to maintain social relationships via the internet on social media platforms compared to counterparts in developing countries or those without digital skills. Some elderly people who valued communal meals as part of socialisation found the restrictions negatively affecting their interpersonal relationships and sense of belonging as they could not meet up with their friends and relatives over coffee or a meal (Batsis et al., 2021). Similarly, for people in care homes no visits were allowed and some sadly died without family members around them, for those who were allowed visits wearing of full PPE did not improve quality of interaction especially for residents with cognitive impairments. Majority of populations investigated in the studies indicated that interactions using the internet were not as good as face-to-face interactions.

Extrinsic influencers to occupational performance

Occupational performance is often significantly influenced by factors that are extrinsic to the individual for example the environment which is composed of physical, psychosocial, socioeconomic, or political factors (Wilcock & Hocking, 2015). The study identified some common overarching barriers which directly and/or indirectly impacted occupational performance among people with disabilities during the COVID-19 pandemic. Such barriers mainly relate to policies and emergency legislation that were introduced in different countries leading to sudden changes to the environmental contexts in which occupations take place thereby exposing people with disabilities to significant occupational injustice. For example, the policies and guidelines meant more time in the home environment; no access to public transport; intrusion of the home environment by service providers as people had to connect with services online; and in some cases, restrictions to obtain assistive devices and support from caregivers (Qi & Hu, 2020; Smith et al., 2020; Silvia et al., 2021). The reported experiences show a huge influence of policies and legislation on occupational choices and performance. To a large extent the COVID-19 related policies and guidelines showed a lack of consideration or inclusion for people with disabilities. In some countries where designated quarantine facilities were used, there were reports of such facilities being inaccessible for people with

disabilities thereby violating their rights provided for by the UNCRPD (WHO, 2020). A worst example is where a man who lived with his son who had cerebral palsy was forcefully quarantined according to the emergency law in China and no one was left to support the son as the law did not have a provision for this and consequently the son he died of starvation because he depended on his father for all daily occupations (Yiqing, 2020).

Discrimination of people with visual impairments, hearing impairments, and those with learning disabilities was noted in the way governments communicated information about COVID-19 to the general public with most communication not in accessible formats especially for these groups of people with disabilities. Similarly, migration of services to online platforms meant that those without internet connection; devices and digital knowledge to use the technology were automatically excluded from accessing services. This exposed the huge digital divide among people with disabilities with those in poorer households being worse off (Oviedo-Cáceres et al., 2021). In general, most countries followed the same approach to implementing lockdowns and curfews despite different socioeconomic situations. In low-income countries where more people depend on informal trading and people with disabilities are often overrepresented among the poorest of the poor the imposition of lockdowns meant instant loss of livelihoods compared to those in high income countries with access to social protection and income protection schemes such as furlough schemes. In other countries packages of care were cut based on decisions by health and social care authorities without consultation or considering the impact of this on the daily lives of people with disabilities (Comos-Herrera et al., 2020[Q11]; Brotman et al., 2021).

Intrinsic factors affecting occupational performance

Despite the sociocultural, political and economic influences reported in most studies, there was subtle acknowledgement of the factors persons with disabilities are born with and typically could not change, such as physiological and structural impairments, age, gender and /or race. Most of the external influences on occupational performance can be said to be aided on their impact by the presence of internal factors. Visual and hearing impairments were cited as primary barriers to participation regarding access to COVID-19 information, education and prevention measures (Oviedo-Cáceres et al., 2021). However, still the study zoomed on external factors such as inclusive policies as these are often the major cause of participatory restrictions. Another study acknowledged the presence of hearing impairments as influencing occupational participation of persons with disabilities during the pandemic, but the actual restrictions are due to environmental factors hindering participation by interfering with communication channels (Tavanai et al., 2021). Physical and mobility-related impairments were also acknowledged as influencing occupational participation among persons with disabilities (Qi & Hu, 2020; Smith et al., 2020; Silvia et al., 2021). However, the focus was on additional restrictions brought about by COVID-19 and proposed mitigatory measures. For example, despite presence of mobility impairments, significant occupational disruption emanated more from lockdown and movement restrictions imposed more than the pre-existing impairments (Qi & Hu, 2020; Smith et al., 2020; Silvia et al., 2021)

Discussion and strategies for bouncing back

Covid restrictions had a significant negative impact on the lives of persons with disabilities. Both intrinsic and extrinsic factors were cited as influencing occupational performance. In this discussion we have placed much emphasis on external factors linked to inequality and injustice issues faced by persons with disabilities in this COVID-19 pandemic. People with some types of disabilities such as sensory processing, behavioural learning disabilities and those who had traumatic brain injuries, lockdowns resulted in less disruption to their occupational performance routines within familiar environments. Most outdoor leisure and social participation occupations were negatively impacted by the pandemic, but there were reports of some lockdown positives such as spending more social time with loved ones and increased

creativity on in-door healthconscious occupations to stay active. Overall, evidence show that sedentary leisure occupations, alcohol use and smoking increased among the population of persons with disabilities and chronic conditions. This may however not be unique to people with disabilities but follows the general trends across populations.

Recovery strategies need services to consider re-evaluation of people with disabilities to establish the baseline changes to their occupational performance levels and meaning attached to their occupations so that person-centred programmes can be provided to promote healthy engagement in meaningful occupations. The pandemic has enabled people to embrace dynamic ways of adapting daily occupations, such that during and post-recovery some services and jobs will continue using hybrid approaches which combine face-to-face as well as online interaction. There is a huge digital divide for people with disabilities to competently use virtual platforms to engage with work, education, leisure and accessing services. Therefore, the role of occupational therapists as trainers or facilitators is important in building back as part of multidisciplinary and multisectoral approaches.

Ensuring access to services for people with disabilities is critical to prevent deconditioning and minimise disruption of routines. Innovations like remote patient monitoring systems could be effective in ensuring that health services remain accessible for persons with disabilities during a pandemic situation. Equally, access to information for people with disabilities need to be prioritised as a basic human right. Education for children with disabilities was significantly affected and there is need for improved collaboration between parents and the schools to address lost learning opportunities and redesigning of education delivery in pandemic situations considering contextual factors. Livelihoods can be restored or improved by promoting approaches that enable people with disabilities to re-enter the workforce, maintain jobs or develop entrepreneurial skills. This requires governments to ensure that reasonable social safety nets are in place as backup for income protection.

To a large extent there was no involvement of people with disabilities in the development of guidelines and legislations in response to COVID-19. The failures in many systems appear to be well rehearsed with lack of consultation of people with disabilities in policy formulation in both low-income and high-income countries. To address the occupational justice issues, there is need for occupational therapists to take on the advocacy role promoting and co-creating inclusive and occupational rights-based policies for emergency and recovery responses. Response strategies need to be inclusive of all people with disabilities especially those with sensory and cognitive disabilities who are at risk of being left out.

In addition, as evidence on Long Covid is still an emerging and new covid rehabilitation programmes are being developed, there is need for involvement of people experiencing this condition to be consulted and involved in co-creation of Long Covid rehabilitation services, protocols, and pathways. The International Classification Functioning, Disability and Health (ICF), which is a biopsychosocial framework, can be applied more widely in interdisciplinary approaches for Long Covid rehabilitation as it has a holistic focus on impairments, activity limitations, participation restrictions and personal factors aligning well with occupational therapy philosophy (WHO, 2001[Q12]). There is need for disability-inclusive responses to COVID-19 recovery through ensuring accessible environments, disability inclusive benefits packages, inclusive budgeting, routine collection of data on disability and meaningful consultations with people with disabilities.

Evidence from the records reviewed did not disaggregate on whether the participants had a disability prior to the covid infection, or if the disability was entirely secondary to COVID-19. However, evidence shows that people with disabilities are at a higher risk for infection; Long Covid and mortality (ONS, 2020; Williamson et al., 2021). The impact of Long Covid on occupations for people with different types of pre-existing disabilities compared to those of people with Long Covid but no prior disability needs further research as this was not explicitly explored in this study.

Conclusion

The COVID-19 pandemic significantly affected the occupational performance of people with disabilities. Findings have implications for the role of occupational therapy in recovery from the pandemic with the potential for occupational therapists in different settings to take on the roles of facilitators, advocates, and researchers for promoting occupational engagement among a wide range of people with disabilities including Long Covid. With regards to the occupational therapy strategies for promoting recovery, attention should be placed on both intrinsic and extrinsic factors influencing occupational performance. Both physical and mental health needs for optimum occupational performance should be addressed using evidence-informed and recommended national and international practice guidelines. Governments have a responsibility to enact inclusive policies and legislation for COVID-19 recovery and potential emergency situations in consultation with people with disabilities in accordance with the UNCRPD.

Disclosure statement

No potential conflict of interest was reported by the author(s[Q13]).

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Attachment Files

1 **Figure 2 PRISMA Diagram.PNG:** *Figure 2 PRISMA Diagram*

