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Impact of COVID-19 on people with physical disabilities: A rapid review

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Abstract

Background: The COVID-19 pandemic caused drastic changes in the lives of the general population. People with physical disabilities, 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.

Objective: This study aims to review the impact of the COVID-19 pandemic, and associated isolation and protective measures, among people with physical disabilities.

Methods: A rapid review of the published literature was conducted on August 10, 2020 through a search in six online databases to synthesize results from original studies regarding the impact of the COVID-19 pandemic on people with physical disabilities. The International Classification of Functioning, Disability and Health was used to describe the population and the personal and environmental factors with a unified and standard health language.

Results: Eleven records were extracted from 1621 individual papers retrieved from the search strategy. Various impacts on daily functioning such as a decrease in access to healthcare have been noted during the pandemic. Changes in social and lifestyle habits, mood changes and decreased levels of physical activity were also noted.

Conclusions: Our results highlighted the lack of early research about the impacts of COVID-19 experienced by people with physical disabilities. Future studies should focus on specific consequences and needs of this vulnerable population to ensure their inclusion in public health recommendations and consideration by policy makers.

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Individuals living with disabilities, who represent 15% of the global population, commonly encounter challenges while carrying out their daily life activities, without the COVID-19 context, such as barriers to community mobility, difficulties accessing public transportation, reduced access to healthcare services and barriers to communication. Compared to the general population, individuals with disabilities have a higher risk of depression, lower life satisfaction and increased loneliness. Considering the COVID-19 pandemic, the World Health Organization (WHO) stated that additional considerations from governments, healthcare systems, disability service providers, institutional settings, communities and actors are needed for people with disabilities. A global pandemic has the potential to significantly increase the daily challenges of people with disabilities and may have a greater impact compared to the general population. Indeed, people with disabilities are often directly impacted by deficiencies and gaps in the healthcare system. They may have a higher risk of contracting COVID-19 and increased complications associated with additional barriers to respect social distancing measures. For example, people with disabilities may rely on public and adapted transportation, have regular healthcare or rehabilitation appointments, need close contact from caregivers or health professionals to achieve their daily routine, or have reduced ability to communicate with face masks (both speaking and hearing others). People with disabilities were already considered a marginalized group and reduced access to healthcare and community support services, among other restrictions, could amplify their daily difficulties. Given their dependence on services and others to meet specific needs and their increased susceptibility to COVID-19, people with disabilities are considered vulnerable in this crisis.

It is crucial that governments, healthcare providers and the general population understand the reality of people with disabilities to support their needs with adequate policies, such as ensuring the continuity of necessary community-based social services, providing access to important information and developing adapted guidelines. A review of the impact of the COVID-19 pandemic on people with disabilities is therefore urgent to minimize long-term consequences and optimize their quality of life and social participation in respect to the Convention of the rights of persons with disabilities. The COVID-19 pandemic has impacted and continues to change the daily life of the entire population. This rapid review focuses on changes regarding areas of functioning, health conditions and contextual factors and possible additional burden experienced by people with physical disabilities, defined as people with an impairment of sensory functions and pain, voice and speech functions, or neuromusculoskeletal and movement-related functions.

**Objective**

The goal of this knowledge synthesis is to review the impact of the COVID-19 pandemic, and associated isolation and protective measures, on people with physical disabilities.

**Methods**

Given the need for rapid answers to support decision making of various stakeholders and public policies, a rapid review was conducted. A rapid review is a knowledge synthesis that uses an accelerated systematic review method, represented by limiting certain aspects of the methodology in order to provide evidence in a policymaker’s timeframe. The methodology of this rapid review follows the Cochrane Rapid Reviewers’ guide and the Practical guide for rapid reviews to strengthen health policy and systems. Our methods and results are reported following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement.

**Literature search**

Search strategies were developed by two authors and reviewed by three others. The search was developed around three main concepts, which were “COVID-19”, “people with physical disabilities” and “impact”. Associated key words were selected in coherence with those concepts. The category “COVID-19” was used to limit the results to those related to this pandemic. The category “people with physical disabilities” includes general terms for people of all ages with disabilities and specific diagnosis in coherence with the eligibility criteria. The category “impact” regroups the ICF areas of functioning, health conditions and contextual factors that could be associated with the COVID-19 pandemic and includes elements such as the psychosocial, emotional, environmental, physical and psychological impacts. They can be reported by the person, caregivers, family or healthcare workers, regarding how the impacts are experienced or perceived. If applicable, changes in those outcomes since the beginning of the pandemic were also assessed. Searchable databases were MEDLINE via PUBMED, Embase, PsycINFO and PsycARTICLES via Psycnet, and CINAHL and Ageline via EBSCOHost. The searches were conducted on August 10, 2020. See Appendix 1 for detailed search strategies used in each database.

**Eligibility criteria**

The Population, Exposure, Comparator, and Outcomes (PECO) framework was used to develop the eligibility criteria (see Table 1). Physical disabilities, defined with the ICF, included impairments of sensory functions and pain, voice and speech functions, or neuromusculoskeletal and movement-related functions; or of the structures of the nervous system, the eye, ear and related structures, the structures involved in voice and speech, or the structures related to movement. Studies focusing on patients with chronic conditions such as diabetes and hypertension only or

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**Conceptual framework**

The International Classification of Functioning, Disability and Health (ICF) was used to identify key terms and construct a search strategy with a unified and standard health language. The level of functioning is defined by the ICF as a dynamic interaction between the health conditions of an individual and his contextual factors (personal and environmental). The term disability is used to define impairments, activity limitations and participation restrictions, which result from a non-optimal interaction between the health conditions, environmental factors, and personal factors. A disability is therefore characterized by difficulties encountered in the following areas of functioning: participation, activities, and body functions and structures. The ICF framework provides a biopsychosocial model of disability, allowing the classification of human level of functioning and the identification of related physiological functions, anatomical structures, actions, tasks, areas of life, and external influences. For this review, the population was narrowed to people with physical disabilities.

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**Appendix 1**

For detailed search strategies used in each database.

**Table 1**

Physical disabilities, defined with the ICF, included impairments of sensory functions and pain, voice and speech functions, or neuromusculoskeletal and movement-related functions; or of the structures of the nervous system, the eye, ear and related structures, the structures involved in voice and speech, or the structures related to movement.
with unspecified chronic conditions that cannot ensure a specific diagnosis in the methodology or analysis were excluded.

Only original studies with data related to our research question were included, thus excluding opinion papers, reviews and methodological articles and unpublished documents. Publication dates were limited to 2019 and 2020, as the COVID-19 pandemic started in 2019. Papers had to be available in English or French for the full text review.

Study selection and data extraction

Data retrieved from the databases were exported to Endnote, and then to Covidence. Two reviewers independently screened the titles and abstracts of the obtained records using the Covidence platform, and decisions were recorded using the same platform. The same two reviewers read the full text of the selected papers. When the reviewers disagreed on the inclusion of an article, they consulted with one another to reach consensus, for both the screening and full text phases. The extraction process was done by one reviewer and verified by the other. The extracted data were the title, year, authors, country, study design, objective, participants characteristics (e.g., diagnosis, N), outcomes (before and after the COVID-19 pandemic, if applicable), and funding sources. The references of the included studies (11 final papers) were screened by the reviewers (one reviewer by study) and added to the screening of the titles and abstracts if relevant.

Methodology appraisal

The Center for Evidence-Based Medicine (CEBM) Levels 1 of Evidence document27 was used by two reviewers to assess the level of evidence of each selected study and limit the risk of bias. The CEBM enables the grading of the papers, which provides a qualifying of the evidence and assisting in clinical decision-making with recommendations. For example, level I evidence or consistent findings from multiple studies of levels II, III, or IV enables the formulation of strong recommendations, and can therefore be suiting for giving evidence-based advice to decision makers.

Synthesis

A narrative approach was used, including tables illustrating the extracted data (authors (year), country, title, study design,
A minimum of two studies were required for the data studies to readers. This type of analysis is suggested for a rapid level of evidence, to provide descriptive summaries of selected objective, population, outcomes and results, funding sources, and criteria. The full text screening allowed the extraction of eleven included individuals with chronic pain and one included individuals with multiple sclerosis, three studies included stroke survivors, one worldwide, one in China, one in the United States and Canada, one in Serbia and one in Montenegro. Regarding the diagnosis of the included populations, three studies included stroke survivors, one included individuals with amyotrophic lateral sclerosis (ALS), four included individuals with multiple sclerosis, one included individuals with chronic neurological diseases, one included individuals with chronic pain and one included individuals with neuromuscular disease. Four studies were focussed on the perception of healthcare workers and health centers. The level of evidence of ten of the eleven studies was 4 on the CEBM levels of evidence, because relevant data were taken in a specific point in time in the studies (even in the retrospective

Table 2 contains a synthesis of the selected records and their level of evidence, grouped accordingly to the diagnosis reported in the papers.

Nine of the eleven selected studies were cross-sectional studies, one was a prospective study and one was a retrospective descriptive study. Six studies were conducted in Europe, one worldwide, one in China, one in the United States and Canada, one in Serbia and one in Montenegro. Regarding the diagnosis of the included populations, three studies included stroke survivors, one included individuals with amyotrophic lateral sclerosis (ALS), four included individuals with multiple sclerosis, one included individuals with chronic neurological diseases, one included individuals with chronic pain and one included individuals with neuromuscular disease. Four studies were focussed on the perception of healthcare workers and health centers.

The level of evidence of ten of the eleven studies was 4 on the CEBM levels of evidence, because relevant data were taken in a specific point in time in the studies (even in the retrospective

**Results**

**Literature search**

The search strategy identified a total of 1621 records, after removing obtained duplicates (n = 706). No records were added to the title and abstract screening after the review of the references lists of the studies included in the synthesis. The title and abstract screening reduced the number of papers to 144, associated with the exclusion of 1477 records, due to their irrelevance with the eligibility criteria. The full text screening allowed the extraction of eleven final records (see Fig. 1 for the PRISMA flow diagram). A list of the excluded studies at the full text screening, with the justification for exclusion, was added in the supplementary material of the paper.
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| Population | Outcomes and results | Funding | Level of evidence |
|------------|----------------------|---------|------------------|
| 426 participants 303 (81%) were stroke physicians/ neurologists and 111 (30%) reported having treated patients with stroke and COVID-19. 289 (77%) reported that not all stroke patients were receiving the usual care in their centers. 266 (71%) estimated that functional outcomes and recurrence rates of stroke patients would be affected by the changes in stroke care related to the COVID-19 outbreak. The areas of stroke care considered as being the most affected by the current situation were rehabilitation (n = 179 (48%)) and acute stroke care (n = 125(33%)). | None | 4 |
| 292 healthcare professionals, 75 (37%) were primary care physicians, 40 (20%) hospital physicians, 46 (23%) nurses, and 41 (20%) other healthcare professionals. 1% of respondents said that, within chronic diseases, the stroke area was the most impacted by COVID-19 due to the reduction of care. | The National Institute for Health Research (NIHR) Applied Research Collaboration East Midlands (ARC-EM) | 4 |
| 227 valid and complete datasets from the survey of the 280 stroke centers. Potential reasons for decreased stroke care admission: No change (3.1%), patients' and their families' fear in coming to hospital (93.8%), insufficient ambulance resources (14.1%), insufficient public transportation (46.7%) or lack of stroke first aid knowledge (35.2%) | The National Natural Science Foundation of China, Shanghai Natural Science Foundation, and China Research Engagement Funding from the University of Pennsylvania | 4 |
| 67 pwMS, who had a neuropsychological evaluation before SARS-CoV-2. 57 (85.1%) reported significant changes in social and lifestyle habits and 39 (58.3%) reported more difficulties in daily life. No differences in levels of depression or anxiety were found between before (T0) and during the lockdown (T1). At T1, patients reported higher satisfaction with sexual function and higher social function score compared with T0. | Open access funding provided by Università Zb degli Studi della Campania Luigi Vanvitelli within the CRUI-CARE Agreement | 4 |
| 243 neurologists who had seen at least 10 MS patients per month in the past 6 months. Among the 23% of specialists stating that they are aware of any of their MS patients self-discontinuing DMTs due to worries about contracting the virus, an estimated 7% of patients had self-discontinued their prescribed DMT in the setting of COVID-19. In 43% of cases, this was against medical advice. | Unrestricted investigator-initiated grant from Biogen, Inc. | 4 |
| 101 patients with RRMS who were in the databases held by the Clinical Center of Montenegro. On a scale of 1–5, some patients reported frequent mood changes (2.19 ± 1.32), fear of coming to regular check-ups with their doctors because of the COVID-19 pandemic (2.49 ± 1.53) and worry about the further course of their illness due to the current situation with COVID-19 (2.74 ± 1.44). 43.1% of patients answered that they were sleeping worse than before the pandemic. 45.7% of patients did not experience any change in their daily activities. 43.6% reported that they were concerned they would experience some difficulties in medication availability and 72.4% were concerned they could not go to the hospital as usual. Patients who would not go to the hospital and try to find their doctor stated the fear of getting infected as the main reason (85.5%). | None | 4 |
| 95 adult RRMS patients and a control group of 99 healthy individuals (HC). | None | 4 |
| 32: 23 with patients' caregivers and 8 with the patients; 1 had died. Predominantly males, 25 had a classical phenotype of ALS, 3 had Primary Lateral Sclerosis and 4 ALS-FTD. 13 out of 31 patients were performing physiotherapy at home before the outbreak and all of them reported a subjective feeling of discomfort after its discontinuation because of Covid-19 pandemic restrictions. Behavioral disturbances (irascibility, anger attacks) and sleep disturbances (difficulty falling asleep, frequent awakenings) were also reported in 15% and 20% of patients respectively, since the start of quarantine time. | Regione Puglia and from Italian Ministry of Health (Ricerca Corrente), and Regione Puglia and CNR for Tecnomed Puglia per la Medicina di Precisione | 4 |
| 2167 patients with chronic neurological diseases, such as ALS (4%), dystonia (5%), multiple sclerosis (9%), myopathies (17%), Parkinson's disease (12%), stroke (11%) ... Patients experienced subjective worsening of neurological condition (15%; 48% for ALS patients), suspension of hospital treatments or physiotherapy (30%; 97% for dystonia patients), difficulty finding medications (4%; 8% for Parkinson and Huntington patients) and a need for urgent consultation (7%; 14% for ALS patients), at different degrees depending on their disease. | Not declared | 4 |
| 268 Italian subjects: 149 had a NMD, while 119 healthy subjects were recruited as a control group. 268 participants with chronic conditions such as chronic neck pain (n = 14) and chronic low back pain (n = 18). A significant reduction of PA was reported for walking activity, total PA levels and MVPA levels, while no difference was found for vigorous-intensity PA and moderate-intensity PA in patients with NMD. Time of moderate-intensity PA in minutes/day was 105.3 ± 126.10 before and 77.5 ± 57.5 after COVID-19 in participants with chronic neck pain and was 106.1 ± 70.9 before and 87.7 ± 63.2 after COVID-19 in patients with chronic low back pain. Time of vigorous-intensity PA in minutes/day was 41.8 ± 46.4 and 40.4 ± 36.8 before and after COVID-19 in participants with chronic neck pain and was 61.1 ± 48.5 and 51.4 ± 40.8 before and after COVID-19 in patients with chronic low back pain. However, no decreases were statistically significant. | Open access funding provided by Università degli Studi di Palermo within the CRUI-CARE Agreement | 4 |
The level of evidence of the prospective study was 2b, because it was an individual cohort study. At this point, it is hard to formulate specific recommendations regarding the CEBM levels of evidence, because of the limited number of papers that assessed different factors.

Outcomes of included studies

Table 3 presents a synthesis of the outcomes of the studies, grouped according to the PECO and ICF frameworks.

The outcomes of the selected studies mostly included environmental factors, specifically regarding the services, systems and policies. Indeed, four out of the eleven studies’ outcomes were exclusively about healthcare access28,30,34,36 and four others included questions about this element.28,30,34,36 Examples of barriers related to services addressed in studies were the cessation of home-based physiotherapy,28,30 insufficient ambulances and public transportation resources to go to the hospital,38 difficulty finding medications11 and changes in usual care.11

Authors also reported changes in body functions and structures. Regarding mental function, more precisely emotional, temperamental and personality functions, some people with disabilities and caregivers reported behavioral disturbances (irascibility, anger attacks)15 and frequent mood changes.36 Patients’ and families’ fear of coming to hospital was also discussed.34,36,38 For the sleep functions, sleep disturbances (difficulty falling asleep, frequent awakenings)28 and a worsening of sleep15 were reported. For the structures of the nervous system, a subjective worsening of neurological condition was noted.30 Finally, regarding the genital and reproductive functions, patients in a study reported higher satisfaction with sexual function during the lockdown than before.11

Regarding activities and participation, restrictions for the acquisition of goods and services and limitations for the use of transportation were noted in the sections about barriers from environmental factors. A reduction of physical activity was also reported, and the changes were statistically significant in one study13 and non-statistically significant in another.35 Some people also reported significant changes in their social and lifestyle habits and more difficulties in their daily life.11

Discussion

The objective of this paper was to review the impact of the COVID-19 pandemic and associated isolation and protective measures on people with physical disabilities. Multiple studies have been conducted since the start of this global pandemic, with more than 40,000 papers resulting from the search of the term “COVID-19” on PubMed on August 20, 2020. Even if approximately 15% of the global population lives with a disability, only eleven studies were included in this paper after the literature search. This highlights the lack of research about the impacts experienced by people with physical disabilities during the COVID-19 pandemic.

Findings from this review provide examples of impacts experienced by this group, with a certain focus on access to healthcare. Four out of the eleven studies were exclusively about healthcare access and four others included questions about this element. Significant decreases in stroke admissions were noted10 and might suggest that people’s fear of consulting during the COVID-19 pandemic18 will result in long-term effect, because people may not have received the required medical and rehabilitation services. This could in turn lead to a decrease in the level of autonomy and functioning of stroke survivors. While these studies were restricted to stroke services, it appears likely that similar phenomenon occurred in other clinical populations. It will thus be important that future studies assess the reduction of rehabilitation, community support and home-based services during the pandemic and get conclusions about the various impacts of this scarcity of services on the individuals with disabilities, their relatives and the healthcare system regarding different conditions and countries.

There was a clear medical focus in published papers during this pandemic, which makes sense regarding the nature of this global event and the urgent need for a vaccine.41 The nature of COVID-19, which is first appraised as a respiratory and inflammatory disease, might also explain why the few studies about people with physical disabilities included neurological diagnosis such as stroke, ALS, multiple sclerosis and chronic neurological diseases. The possible neurological consequences of COVID-19 on those diseases11-14 might have made them a population of interest for researchers during the crisis. Certain populations, such as amputees and people with visual and hearing impairments, may be less susceptible to medical complications due to COVID-19 than people with neurological disabilities. This, in turn, might explain the lack of published studies regarding non-neurological conditions. However, measures associated to the pandemic, such as social isolation or generalized use of face masks, might have important social impacts on these groups.44,45 Therefore, more studies are needed to address these questions, and it is urgent that we get more insight on the experience of these marginalized but prevalent subgroups of the population, to improve policies and procedures and to reduce potential inequality in future crisis management.

Behavioral and sleep disturbances were also reported in people with ALS28 and multiple sclerosis34,36 but it may be partially associated with the evolution of the diseases and not with the COVID-19 pandemic. It is thus important to distinguish the impact of the pandemic of the natural course of a disability to adjust care pathways regarding the needs of this population or to plan healthcare services responses for such issues in the future. However, similar effects were noted in studies about the general population, suggesting that sleep disturbances and mood changes may be influenced or accentuated by the COVID-19 pandemic.

Reported higher satisfaction with sexual function in individuals with multiple sclerosis37 also suggests there may be positive impacts of the COVID-19 pandemic on the population. Although this finding should be explored in different populations and confirmed with more research, future studies should consider this aspect in order to have an overview of all the impacts of the pandemic, both negatives and positives. This could enable the retention of certain measures taken during the pandemic, for example the increase of telemedicine and delivery services.

Despite the limited empirical evidence found regarding the impact of COVID-19 on people with disabilities, the subject was not entirely absent in the scientific literature. Some commentaries, for example, urged governments to provide adequate health resources to populations particularly vulnerable to the development of psychological disorders such as the deaf community.42 Other authors highlighted the need to ensure equity in medical decisions43 and the necessity to gather information about infection and mortality rates for people with physical disabilities coupled with other health conditions.44 It is thus likely that those concerns will result in a larger number of studies about this topic in the forthcoming years. However, a gap in knowledge might remain with regards to the immediate impact of the COVID-19 pandemic on our population of interest in long-term effect.
impairments highlighted potential problems in that population, such as people's fear of having a breakdown, increased anxiety, and concerns about others assisting them in physical tasks like going to the grocery store during the COVID-19 pandemic. Such studies should therefore be kept in mind in order to keep track of future papers that could help people understand the impacts and needs of people with physical disabilities.

A major lack of evidence regarding the impacts on children with physical disabilities was noted. Indeed, none of the selected papers included children, despite their vulnerability during this crisis. The closure of schools may have stopped services, such as occupational therapy or speech therapy, which are often delivered in class. The impacts on children with physical disabilities should be assessed to assure an adequate response towards their needs and to minimize possible developmental impacts.

The impact of COVID-19 should be considered by governments and institutions when taking actions and decisions about the healthcare access and the public health measures to implement during the pandemic and during future health crisis. Mental health concerns have been mostly reported among the elderly, health-care workers and the youth. People with physical disabilities should not be forgotten, especially since they already face substantial barriers in their everyday life and have higher risks of mental health issues.

**Strengths and limitations**

Our rapid review, performed and reported in accordance with...
PRISMA guidelines, is a starting point for a more complete agenda of research in disability sciences. Its relevance for scientists, clinicians and decision makers should be emphasized. However, some limitations might have affected our conclusions. Studies about people with physical disabilities might have been excluded because they did not provide specific descriptions of the assessed population. For example, some studies did not differentiate people with strokes from those with diabetes and hypertension in their analyses, or children with physical disability from children with attention deficit disorder, resulting in their exclusion from the review. Furthermore, letters to the editor and position papers containing original data were excluded because of our eligibility criteria. Only peer reviewed papers were included, therefore excluding grey literature. The search strategy was limited in six online databases and was not conducted in trial registries. Language restrictions (English or French) might also have resulted in the exclusion of important data. Moreover, we decided to limit the review to people with physical disabilities. However, impacts experienced by people with intellectual and developmental disabilities should also be considered and assessed in future reviews, as they are also considered as a population vulnerable to negative outcomes during this crisis. Another limitation of this review is the lengthy publishing process of some journals, which might result in a lack of studies about the impact of COVID-19 on people with physical disabilities in the short term. Indeed, some medical journals have accelerated their publishing process for studies about COVID-19, but it does not seem to be the case for all rehabilitation journals, which generally publish studies about people with physical disabilities. An update of this review will therefore be needed to confirm and expand the results.

Implication for practice and policy

Results obtained with this rapid review have highlighted difficult access to services for people with disabilities during the pandemic. It is of utmost importance to better understand the motives under this situation (avoidance of services by users, difficulty accessing the services, etc.) to rethink the question of access to rehabilitation services in context of crisis, such as pandemic, war or natural disaster. Our review also underlines the lack of research about the impacts of the COVID-19 pandemic on people with physical disabilities, a population that is too often forgotten in governmental decisions and that should be included in future crisis strategies and response planning. Studies with the main criteria.

Declaration of competing interest

The authors declare no conflict of interests.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.dhjo.2020.10104.

References

1. World Health Organization. WHO coronavirus disease (COVID-19) dashboard. https://covid19.who.int/
2. El-Zoghby SM, Soltan EM, Salama HM. Impact of the COVID-19 pandemic on mental health and social support among adult Egyptians. J Community Health. 2020;45:689–695. https://doi.org/10.1007/s10900-020-00853-5.
3. Parhi D, Russel BS, Fendrich M, Finkelstein-Fox L, Hutchison M, Becker J. Americans’ COVID-19 stress, coping, and adherence to CDC guidelines. J Gen Intern Med. 2020;17(10). https://doi.org/10.1003/j.gi.17103604.
4. Madani A, Boutebal SE, Bryant CR. The psychological impact of confinement linked to the coronavirus epidemic COVID-19 in Algeria. Int J Environ Res Publ Health. 2020;17(10). https://doi.org/10.3390/ijerph17103604.
5. Zhao X, Lan M, Li H, Yang J. Perceived stress and sleep quality among the nondiseased general public in China during the 2019 coronavirus disease: a moderated mediation model. Sleep Med. 2020. https://doi.org/10.1016/j.sleep.2020.05.021.
6. Chakraborty K, Chatterjee M. Psychological impact of COVID-19 pandemic on general population in West Bengal: a cross-sectional study. Indian J Psychiatr. 2020;62(3):266–272. https://doi.org/10.4103/psychiatry.IIndianPsychiatry_276_20.
7. McIntyre RS, Lee Y. Projected increases in suicide in Canada as a consequence of COVID-19. Psychiatr Res. 2020;290. https://doi.org/10.1016/j.psychres.2020.113104.
8. World Health Organization. Disability and health. https://www.who.int/news-room/factsheets/detail/disability-and-health; 2018.
9. Jonasdottir SK, Polgar JM. Services, systems, and policies affecting mobility devices’ community mobility: a scoping review. Can J Occup Ther. 2018;85(2):106–116. https://doi.org/10.1007/s00880-017-1323-7.
10. Bezyak JL, Sabella S, Hammel J, McDonald K, Jones RA, Barton D. Community participation and public transportation barriers experienced by people with disabilities. Disabil Rehabil. 2019;1–9. https://doi.org/10.1080/09638288.2019.1590469.
11. Gudlavallet M, John N, Allagh K, Sagar J, Kamalakannan S, Ramachandra SS. Access to health care and employment status of people with disabilities in South India, the SIDE (South India Disability Evidence) study. BMJ Public Health. 2014;14:1125. https://doi.org/10.1136/bmjopen-2014-004125.
12. Hersh M. Deafblind people, communication, independence, and isolation. J Deaf Stud Deaf Educ. 2013;18(4):446–463. https://doi.org/10.1177/10869288.2013.058914.
13. Nicolaisen M, Strand BH, Thorsen K. Aging with a physical disability, duration of disability, and life satisfaction: a 5-year longitudinal study among people aged 40 to 79 years. Int J Aging Hum Dev. 2019. https://doi.org/10.1177/0011305218819576.
14. Brunes A, B Hansen M, Heir T. Loneliness among adults with visual impairment: prevalence, associated factors, and relationship to life satisfaction. Health Qual Life Outcome. 2019;17(1):24. https://doi.org/10.1186/s12955-019-1096-y.
15. World Health Organization. Disability considerations during the COVID-19 outbreak. https://apps.who.int/iris/rest/bitstreams/1277373/retrieve; 2020.
16. World Health Organization. 10 Facts on disability. https://www.who.int/news-room/factsheets/detail/disabilities; 2018.
17. Buchanan J. Protect Rights of People with Disabilities during COVID-19. New York: Human Rights Watch; 2020.
18. The United Nations. Convention on the rights of persons with disabilities. Treaty Series. 2006;2515. 8.
