

Impact of the COVID-19 Pandemic on Individuals With Low Vision

Life Goes On

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This qualitative case study explored the impact of lockdown and social distancing measures used during COVID-19 on the lives of individuals with low vision. A purposive sample of 6 participants with low vision was recruited. Data were collected using in-depth semistructured interviews consisting of 10 open-ended questions. A thematic analysis was conducted to understand the unified subjective experiences of the participants. The analysis revealed 4 themes: (1) Changes, a lot of them; (2) Emotional roller coaster; (3) Life goes on; and (4) Technology as the catalyst. Participants demonstrated ongoing adaptation to meet the changing demands imposed by the pandemic.

Key words: COVID-19, low vision, rehabilitation, technology

The SARS-CoV-2 virus has infected more than 248 million individuals across the world.¹ The public health departments in the United States and other countries used lockdowns and social distancing measures to decrease the spread of highly infectious COVID-19.² Social distancing, also termed physical distancing, is a primary policy recommended by the Centers for Disease Control and Prevention for reducing the spread of COVID-19.³ This policy recommends limitations in face-to-face encounters, avoiding congregating settings, mass gatherings, and maintenance of at least a 6-ft radius between oneself and anyone living outside of one's household.^{3,4} Other policies, such as the closure of nonessential businesses and limitation on store capacity were implemented to curb the community spread of COVID-19. These policies had a profound impact on the daily lives of the population.⁵

Although social distancing decreased the risk of exposure and contracting of the virus, prolonged loss of social contact increased the risk for social isolation and loneliness.⁶ When individuals have few relationships and inter-

actions, it can lead to the feeling of loneliness and social isolation.⁷ Social distancing and lockdown policies significantly decreased the availability of opportunities for social interactions. The lack of information about the course of COVID-19 at the beginning of the pandemic and high transmissibility along with high mortality associated with COVID-19 led individuals to voluntarily limit their interaction with individuals outside their family unit,⁸ influencing many aspects of individuals' daily lives, including physical activity, social media use, and time spent alone.⁹ Individuals also reported an increase in sedentary behaviors, unhealthy diets,^{5,10,11,12} negative self-perception,¹² psychological strain, depression, and anxiety.⁵

Individuals with disabilities often face challenges and show decreased participation in daily activities, community participation, community mobility, accessing health care services, and communication.¹³ Social distancing guidelines increased negative consequences for individuals with physical and mental disabilities as these individuals often seek and require outside services and support.¹³ Reduction in social and family support was reported for individuals with disabilities.^{8,14} In addition, social distancing and lockdown measures influenced the habits, routines, social interaction, and physical activity of individuals with disabilities.

Individuals with low vision have difficulty recognizing faces, reading, and participating in community mobility, education, employment, leisure, home maintenance tasks, shopping, meal preparation, cleaning, etc.¹⁵⁻¹⁹ Low vision refers to a permanent loss of visual acuity or visual field that cannot be corrected through surgical, pharmaceutical, or optical intervention^{20,21} and can be understood as any type of visual impairment that impacts activities of daily living.²² These individuals often rely on other senses, such as olfactory, tactile, and auditory, to get information about the world around them.²³ Social distancing and other measures such as decreased use of hands/fingers or wearing a mask used to prevent the spread of COVID-19 can obstruct the use of these senses and further decrease their participation in daily life. Lack of social interaction can also lead to stress and negative emotions.²⁴ Decreased participation in meaningful activities can further exacerbate the feeling of loneliness.²⁵ The actual and perceived feelings of social isolation are associated with an increased risk for early mortality.²⁴

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Individuals with vision loss experience unique physical, psychological, and social challenges.²⁶⁻²⁹ Understanding the impact of lockdown and social distancing measures on individuals with low vision is necessary to address the challenges faced by this group. This information can help occupational therapists prepare for such events and continue to address the needs of individuals with low vision. Therefore, this study was conducted to understand how lockdown and social distancing measures used during the pandemic impacted individuals with low vision.

METHODS

A qualitative case study method was used to understand the impact of social distancing and lockdown measures during the COVID-19 pandemic on individuals with low vision.³⁰ Social distancing and lockdown in response to COVID-19 were an unforeseen and inexperienced event of this century. With the minimal transformation of the data, this method provided the foundation for gaining greater insight into the lives of individuals with low vision during a pandemic and answering the questions that are relevant to practitioners and policy makers.^{31,32}

The question “How did lockdown and social distancing measures used during COVID-19 pandemic impact the lives of individuals with low vision?” guided this study. Subsidiary questions included the following: “How were the challenges you faced during the pandemic?” “What emotional experiences did you face during this pandemic?” and “How did your social participation and relationships have changed due to COVID-19?”

Recruitment procedures and participant contexts

A purposive sample of 6 participants with low vision was recruited from a private nonprofit agency located in New York in accordance with the Hofstra Institutional Review Board (IRB) (HUIRB#20190305-OCC-HPHS-HSU-2). The background of participants and their context is explained in the following text based on the information collected during the interview. Pseudo names were assigned to protect the participants’ identities.

Participant 1: Bryce

Bryce is a 55-year-old man with the diagnosis of retinopathy prematurity. Prior to the pandemic, he lived with his wife and daughter in Florida, where he assisted the elderly in a community center as a part of a job training program. However, he was let go during the pandemic. As a result, he moved to New York State. He uses his smartphone with various apps to communicate with his family and friends. He has been using braille since childhood.

Participant 2: Claire

Claire is a 56-year-old woman with the diagnosis of rubella retinopathy. She had visual acuity of 20/200 in her youth

and as the condition progressed, her vision gradually declined to 20/400. She developed glaucoma 8 years ago, leading to further decline of vision. Currently, she only has light perception. She lives with her daughter and 3 grandchildren. She uses a guide dog and a van provided by the Blind Association.

Participant 3: Daisy

Daisy is a 56-year-old woman with the diagnosis of congenital rubella syndrome. She was born without one eye and a torn retina in the other. Her visual acuity is 20/400 since birth. She also has decreased depth perception. She lives with her husband and her adolescent daughter. She uses a cane. She has a master’s degree as a speech pathologist.

Participant 4: Layla

Layla is a 55-year-old woman with the diagnosis of an underdeveloped retina. She has a low vision, which further declined when she was 30 years old. At this time, she can only see hand movements. She lives alone (separated from her husband), and her adult children and sister would help her to go places. Prior to COVID-19, she was independent in taking public transportation such as subway, train, and Access-A-Ride or train. She uses a cane and a sight dog. Layla worked as a special education teacher for many years and decided to retire early due to her vision condition, and she has been very active in her athletic activities.

Participant 5: Lauren

Lauren is a 55-year-old woman who was diagnosed with retinopathy of prematurity at birth. Prior to the pandemic, she lived with her husband. However, she separated from her husband during the pandemic. She uses a dog or a cane and walks most places. Occasionally, she uses shared rides for transportation. She uses Braille and sighted assistance over the phone or the Internet. She has 2 master’s degrees and works as a vision rehabilitation teacher. Since the beginning of the pandemic, she has been working from home 3 days a week.

Participant 6: Yuna

Yuna is a 53-year-old woman with the diagnosis of Leber’s congenital amaurosis. She is color-blind and has a functional vision. She is a single parent of a 17-year-old son who also has Leber’s congenital amaurosis. She said she is very comfortable using technology with accessibility features. She uses a cane and is independent in her mobility. She works as a special education early childhood teacher.

Data collection and analysis

Data were collected using an in-depth semistructured interview consisting of 10 open-ended questions. Because of pandemic restrictions, interviews were conducted virtually, either over the phone or encrypted service at the

discretion of the subject. At least 2 research team members conducted each interview. Interview recordings were transcribed for thematic analysis.

The thematic analysis was conducted to understand the common themes that represented the unified subjective experiences of all participants. Two researchers conducted thematic analysis³³ independent of each other. NVivo (version 12 Pro) was used for the analysis. Themes were developed in 3 stages: initialization, where each researcher read transcribed interviews and units of meaning and took notes independent of each other. Then during the construction phase, themes were classified, labeled, and translated. At this stage, data and themes generated by both researchers were compared and, if needed, combined. Finally, in the rectification phase, themes were appraised against the data, checked, and confirmed.³³

RESULTS

The thematic analysis produced 4 themes. These themes included the following: (1) Changes, a lot of them; (2) Emotional roller coaster; (3) Life goes on; and (4) Technology as the catalyst.

Changes, a lot of them

The lockdown and social distancing measures used to curb the pandemic led to disruption in all areas of participants' life. Some of the main areas disrupted by the pandemic included work, social participation, community participation, leisure activities, and grocery shopping. For example, Bryce had to move from Florida to New York after he lost his job.

These measures also impacted participants' relationships and their interaction with family and friends. Lauren and her husband separated, and Denis could not see her friends or go out as reflected in her statement, "During the height of the pandemic, basically, I was holed up at my house with three other beings. Nobody left anywhere."

On the other hand, the pandemic also led to positive changes for some participants. Yuna had "more work now," and Claire got to be around her daughter and grandchildren "a lot." Availability of family and social support, and sharing of resources, influenced their ability to cope up with the changes. While sharing space put a strain on the relationship for Lauren, having family members in the house helped Claire manage changes. The pandemic influenced participants' patterns of daily activities as reflected in the following statements:

Well, I, you know, I would go into stores more independently before the pandemic, and I'm not really doing that because I, I don't feel that comfortable going by myself because of the whole social distancing aspect of it. I don't know, so I depend on going with somebody now where I would do that by myself before. (Layla)

I did a lot of physical activity like running with Achilles and in tandem bike riding things like that which I haven't been doing. Seeing friends—it's it's hard to get together with people but I don't think that's different than anybody else pretty much. (Layla)

It became very difficult to work (with everyone home) in the very small space with just no break for the tension, so that part I don't miss it all. As COVID-19 is concerned, it has pretty much trashed my marriage, so he (husband) was gone. (Lauren)

Emotional roller coaster

Participants experienced a range of emotions from anxiety to frustration to sadness in response to the sudden and sustained effect of the pandemic. The fear of catching COVID-19, the uncertainty of the course of the pandemic, changing guidelines, and inconsistencies in policies contributed to the theme of the *emotional roller coaster*, which is reflected in the following statements:

Definitely nervousness of traveling and just being around people because about time people approach you, you know, very nicely you know to see if you need assistance but like you don't know if they're wearing masks or if they're not wearing a mask. (Layla)

Changes in life situations and lack of opportunities for social interaction further affected their emotional well-being as reflected in Layla and Lauren's statements:

Also just spending a lot more time alone has been kind of depressing and you know when people come over it just puts you in an awkward position like, like an electrician came over a couple of weeks ago and he didn't sound like yeah mask on and I asked him and he didn't have a mask you know so it's like kind of awkward to always have to ask are you wearing a mask, aren't you wearing a mask. (Layla)

You know people that are close to me. I don't, even if I see my sister who lives close by we don't give each other hugs we give each other fist bumps or elbow bumps and it's really not the same thing, so I do feel a lot more cut off that way. (Lauren)

Life goes on

Although lockdown measures and social distancing posed challenges across many aspects of life, participants adapted to changes and uncertainty posed by the pandemic. Work and weekly schedules changed in response to the lockdown measures. Participants also worked remotely and engaged in social interactions using technology due to the lockdown measures. Bryce moved across the states to adapt to lost jobs, while Yuna had to take up more work

and at times turn down some of the work opportunities. Lauren worked only 2 times a week. Participants changed or adapted leisure activities and social interactions as summarized in the following statements:

I'll find something to do and I do I just find stuff to do I listen to my book so I'll be on my phone checking emails and before you know it the day is gone I have had tons and tons of like the Alexa devices so I play games on that and I don't play music and before you know it the day is done. (Claire)

When they first shut down we would do it Zoom meetings and now ... what they're doing since this second shutdown is they're doing teleconference calls 'cause like say Monday activity is exercising life skills so we're not doing the teleconference for exercise or doing one with the dietitian that talks about life skills and then the first.... Thursday of the month we have our book club so we've done ... that via you know Zoom. (Claire)

We meet virtually for bands and instead of recording tracks live in you know, in the room together as a band, we have to record our instruments separately and send it to our you know, bandleader so we can mix the track, so our relationships have become like in a way we kind of depend on each other, even more now because in a room when you're recording a song. (Yuna)

Technology as a catalyst

Technology played an important role during the pandemic. Technology was used to accommodate changes in work, leisure, and social participation. Phone apps, Zoom, and other technology were used to continue with life. Layla used a screen recorder on her computer in order to grocery shop online and visited the Metropolitan Museum of Art over Zoom, and Daisy used WhatsApp or Voxel to communicate with her friends. Layla continued her guitar lessons on Zoom. Participants also had technology fatigue as reflected in the following statement:

When the pandemic first started it was exciting learning all these new things and trying all these new like WhatsApp and you know doing all this stuff and now people like tired of doing Zoom. (Daisy)

DISCUSSION

This study was conducted to understand how social distancing and lockdown measures used during the pandemic impacted individuals with low vision. The results of the thematic analysis showed 4 themes: Changes, a lot of them; Emotional roller coaster; Life goes on; and Technology as the

catalyst. The pandemic, social distancing, and lockdown measures led to changes in participants' social participation, community participation, work, and leisure activities. Similar results were reported in the general population by researchers.^{8,9} In addition to demands posed by lockdown and social distancing measures, uncertainty related to the pandemic had a negative influence on the participants' emotional well-being. Similarly, as reported by researchers,^{5,25} individuals who demonstrated negative emotions, and feelings of loneliness, were reported by participants in this study due to decreased social interaction and participation in meaningful activities. However, participants carried on with their lives; they found new meaningful activities or adapted the activities and continued meaningful relationships with the help of technology. Inner drive to engage in meaningful activities and social interactions facilitated the process of adaptation to meet the demands posed by the pandemic.

The study shows that the pandemic affected the lives of individuals with low vision, and they needed to be prepared for the changing life situation. Although participants were able to manage challenges, it was not without exerting a toll on their emotional well-being. Availability of resources and social support positively influenced their ability to cope with the changes. The findings of this study can be used to prepare for future life-changing events.

Limitations

This study is a qualitative case study, and the findings represent the perspectives of the participants within their personal and environmental contexts; therefore, the results cannot be generalized. Most of the participants received higher education and either had worked prior to the pandemic or continued to work. All were very active within the community and engaged in many social activities prior to the pandemic. They also utilized social support and were accustomed to the technology. In addition, this group sample had adapted their gradual vision loss throughout their life with the technology. Therefore, they may not represent the population with low vision who do not have access to technology or other support.

Future research

A further study with a larger sample with individuals with low vision would help gain a deeper understanding of how the pandemic affected individuals with low vision.

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