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# Toward successful future use of telehealth in occupational therapy practice: What the COVID-19 rapid shift revealed

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**Abstract**.
**BACKGROUND:** Prior to the onset of the COVID-19 pandemic, occupational therapy (OT) services delivered through telehealth demonstrated comparative effectiveness to in-person services. At the onset of the pandemic, occupational therapy practitioners (OTPs) needed to continue delivering care to clients without being in-person. Many OT practitioners pivoted rapidly to telehealth, in many instances, with very little training.
**OBJECTIVE:** The objective of this study was to describe the use of telehealth in occupational therapy during the early stages of the pandemic, and to explore how participants traversed the barriers. The perceived benefits and barriers to success with rapid telehealth adoption as experienced by OTPs, along with the specific strategies used to promote favorable outcomes may inform ongoing successful telehealth use in occupational therapy.
**METHOD:** This study used a mixed-methods sequential explanatory design. Data was collected from September to December 2020 with an electronic survey.
**RESULTS:** A total of 193 OTPs completed the survey, representing the delivery of OT services in 13 countries. Three main barriers to the use of telehealth were availability of materials, mastery of technology, and collaboration with caregivers/e-helpers. These barriers were negatively and significantly correlated with the participants' confidence level in the use of telehealth. Participants overcame barriers by independently obtaining telehealth training, including training within one's organization, support from social media, self-directed learning, and paid online telehealth webinars.
**CONCLUSION:** Employers and educators can remove barriers to telehealth use by OTPs by providing a variety of learning opportunities and supports to enhance practitioners' confidence, thus increasing the likelihood of continued use of telehealth as a powerful and gap-bridging delivery model in occupational therapy.

Keywords: Work from home, school-based practice, remote, COVID-19

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## 1. Introduction

At the onset of the global pandemic, occupational therapy practitioners (OTPs) globally needed to find a way to continue delivering care to clients without being in-person. Telehealth provided a way for OTPs to meet this need. Many OTPs pivoted rapidly to this service delivery model due to the pandemic [1]. Prior to the onset of the COVID-19 pandemic, telehealth as a service delivery model had demonstrated comparative effectiveness to occupational therapy (OT) services delivered in-person in multiple studies [2]. Efficacy had also been established for a variety of OT assessments administered through telehealth [3], as well as in intervention studies across various OT practice settings. In addition, there is robust evidence of comparative effectiveness between telehealth and in-person OT services in multiple studies analyzing interventions for populations including adults with dementia, neurological conditions, and cancer; children with autism spectrum disorder (ASD); in the area of OT school-based practice for children with various conditions; as well as for caregivers of individuals with disabilities [4–8].

Prior to the onset of the COVID-19 global pandemic, the benefits of OT services delivered through telehealth in school-based practice included access to service, collaboration and carry-over with team members, improvements in efficiency, and student engagement and comfort [9]. Additional benefits of telehealth include a reduction in travel time or the elimination of travel to access services, greater collaboration among health care professionals and client advocates, reduction of the spread of infections/viruses, service delivery in an environment familiar to the client, and high levels of client satisfaction [9–11].

However, as of February 2020, the adoption of telehealth as an OT service delivery model was not widespread [9]. Lack of payment and clear payment guidelines from the Center for Medicare and Medicaid Services (CMS) contributed to the slow adoption of telehealth among OTPs, particularly home health providers, who are often reliant on Medicare payment. Already struggling with a lack of essential healthcare infrastructure, rural communities were especially at risk as a result of limited telehealth options available [9, 13]. The emergence of the pandemic and subsequent requirement of social distancing significantly changed the way people participated in daily occupations [14]. As the pandemic spread, the adoption of telehealth accelerated exponentially [11]. With young children and adults being home for extended periods of time, extracurricular activities being cancelled, and public spaces being closed, people experienced significant disruptions in their routines. During the "Stay at Home" order in the United States, many public schools across the nation quickly transitioned to online educational programming, primarily with the use of live video conferencing services. This adoption was far from seamless, as the sudden change brought challenges for all, including teachers, students and parents [15]. Similarly, health care practitioners were thrust into the use of a telehealth service delivery model abruptly due to the rapid spread of the COVID-19 virus [1, 11].

Telehealth provided a way for OTPs to continue delivering care to clients without being in-person. According to the World Federation of Occupational Therapists (WFOT) [16], telehealth is "the use of information and communication technologies (ICT) to deliver health-related services when the provider and client are in different physical locations" (p.1). However, potential barriers to utilizing telehealth as a service delivery model for OT services exist. Inexperience and unfamiliarity with telehealth can affect a client's willingness to receive services through this service delivery model [17]. In addition, limited resources and assistance needed to access services through telehealth may also be a barrier for some clients [17]. Training for OTPs on the use of telehealth has been limited as well, and prior to the pandemic, many healthcare professionals did not have any prior preparation or training [9, 18]. Barriers to the use of telehealth (e.g., access to technology, internet reliability, e-helper/caregiver support, when needed, during therapy sessions) impact telehealth outcomes and were identified pre-pandemic [9]. Support to traverse these barriers was scarce during the rapid transition to telehealth at the beginning of the pandemic. Results of a WFOT survey [1] of OTPs globally, conducted during the April and July, identified that future supports are necessary to facilitate the use of technology in delivering OT services. The importance of continued education and support for overcoming access issues, resource availability and advocacy within the OT profession and with other stakeholders (e.g., funding sources, policy makers) remains [19].

The purpose of this study was to describe the use of telehealth in OT during the early stages of the pandemic, and to thoroughly explore how participants traversed the barriers. Understanding the perceived

benefits and barriers to success with rapid telehealth adoption as experienced by OTPs may inform future training initiatives and ongoing telehealth use in occupational therapy.

## 2. Methods

This study used a mixed-methods sequential explanatory design. In this design, quantitative data are first used to describe and explain associations, followed by a qualitative in-depth description [20]. Data was collected through a survey with multi-point rating (e.g., Strongly Agree to Strongly Disagree) and open-response questions using Qualtrics software [21]. The survey consisted of 34 questions in total including demographic and practice questions regarding years of OT practice, clinical practice area, geographic area of practice, number of clients served by telehealth per OTP, age range of clients served by telehealth per OTP, pre-pandemic telehealth experience, whether or not and which outcomes measures were being used for telehealth sessions, time used to prepare for and transition to integration of telehealth use during the pandemic, description of training in which OTPs participated in preparation for telehealth use, process for choosing telehealth platform used, process for obtaining technology hardware used for telehealth service delivery, service type(s) for which telehealth technologies were used, interventions most frequently delivered by telehealth, reports of OTPs' satisfaction and OTPs' perceived client/student satisfaction with services delivered by telehealth, OTPs' awareness of telehealth policy initiatives in their primary country of practice and whether or not a position statement on OT and telehealth existed, description of supports that would increase the OTPs' confidence with telehealth use and whether or not the OTP planned to continue use of telehealth post-pandemic. Data collection occurred over 12 weeks from September to December 2020. Snowball sampling was used to recruit participants as digital flyers were posted on social media platforms in closed groups related to occupational therapy. Platforms included Facebook, LinkedIn and AOTA Forums. No incentives were offered other than specification that participation contributes to the body of knowledge in the OT profession. Quantitative data were organized and analyzed using SPSS software [22] for descriptive statistics, Spearman's Rho correlations, and factor analysis of barriers. Based on the key quantitative findings, qualitative data related to barriers and acquired confidence in using telehealth as an OT service delivery model were examined and organized into categories and themes using the Dedoose desktop application [23], designed to analyze qualitative and mixed-method research. The study was approved by the Institutional Review Board of each researcher's affiliated institution.

Open-ended questions provided OTPs with an opportunity to reflect on closed-ended, quantitative-response questions, then further describe feelings, beliefs, experiences, and specific details in writing. Inductive analysis using open coding involved qualitative data reduction and resulted in the identification of core meanings [24]. To enhance trustworthiness, the four researchers, who are OTPs with extensive experience in telehealth, read the open-ended question responses and determined initial themes to ensure accurate depiction of the data [24]. First, the researchers read open-ended written responses for overall sense of the responses, followed by a detailed data reading, noting recurring statements, relevant statements, concepts, and words related to the meaning and impact of the participants' described experiences. Relevant statements were assembled into themes, and verbatim quotes from the data were identified to create a rich essential description reflecting core components of successful telehealth experiences as described by OTPs.

## 3. Results

### 3.1. Participants

A total of 193 OTPs completed the survey. Demographic information included role (occupational therapist or occupational therapy assistant), residency (USA or international), years of professional practice, experience with telehealth use prior to the pandemic, OT practice area(s), and the number of clients receiving services through telehealth (at the time the survey was completed). See Table 1 for participants' demographics.

### 3.2. Training

Survey participants identified the type of training received prior to transitioning to telehealth and the time they had to transition to telehealth as a result of the pandemic. See Table 2.

Table 1
Participant demographics

| | *n* | % |
|---|---|---|
| Role | | |
| Occupational therapist | 182 | 94.3 |
| Occupational therapy assistant | 11 | 5.7 |
| Residency | | |
| USA | 188 | 97.4 |
| Other | 5 | 2.6 |
| Years of professional practice | | |
| 1–5 years | 60 | 31 |
| 6–10 years | 29 | 15 |
| 11–15 years | 22 | 11.5 |
| <15 years | 82 | 42.5 |
| Telehealth use prior to the COVID-19 pandemic | | |
| Had experience | 16 | 8.3 |
| No experience | 177 | 91.7 |
| OT practice area (overlap in selections) | | |
| Academic Education | 25 | 4.9 |
| Children & Youth | 164 | 32.5 |
| Developmental Disabilities | 111 | 21.9 |
| Home & Community Health | 27 | 5.3 |
| Mental Health | 15 | 3 |
| Rehabilitation & Disability | 22 | 4.3 |
| Work & Industry | 2 | 0.4 |
| Sensory Integration & Processing | 110 | 21.7 |
| Health & Wellness | 4 | 0.8 |
| Productive Aging | 7 | 1.4 |
| Number of clients receiving services through telehealth | | |
| 5 or less | 20 | 10.5 |
| 6–10 | 34 | 18 |
| 11–15 | 27 | 14 |
| 16–20 | 27 | 14 |
| 20–30 | 38 | 20 |
| 30–40 | 29 | 15 |
| 40–50 | 4 | 2 |
| 51 or greater | 12 | 6 |

Table 2
Telehealth training and transition

| | *n* | % |
|---|---|---|
| Telehealth training received | | |
| No training | 65 | 23.2 |
| Formal training in the organization: 1–3 hours | 53 | 19.0 |
| Formal training in the organization: more than 4 hours | 10 | 4.0 |
| Free online webinar: 1–4 hours | 66 | 23.5 |
| Free online webinar: 5–10 hours | 27 | 10.0 |
| Paid online webinar: 1–4 hours | 16 | 6.0 |
| Paid online webinar: 5–10 hours | 9 | 3.0 |
| Other: Facebook groups, OT forums, team meetings | 34 | 12.0 |
| Time before transitioning to telehealth | | |
| 1–3 Days | 54 | 28.0 |
| 4–6 Days | 47 | 24.5 |
| 7–9 Days | 32 | 16.5 |
| 10–14 Days | 31 | 16.0 |
| 14–28 Days | 20 | 10.5 |
| Greater than a month | 5 | 2.6 |

### *3.3. Qualitative themes related to training at time of transition to telehealth*

Four themes emerged from the survey's open-response questions asking for description of training experience. Themes related to: (1) peer networking; (2) social media including Facebook groups and OT forums; (3) formal training in the OT practitioner's organization; and (4) online webinars.

This participant's quote incorporates all four themes:

> "My team was given almost no official training. Some team members took on training on their own time. We have been advocating to our boss that we need direction from admin on how to do school based OT within a collaborative model when there are a ton of equity issues with school access, however it is a month into school [the 2020–2021 school year] and we have not been given this, so we are figuring it out on our own."

#### *3.3.1. Peer networking*

The most frequently mentioned theme was the use of peer networking to problem solve, brainstorm and receive necessary support. Participants described seeking formal and informal support from peers and colleagues online, by phone and within their own organizations. Frequency of peer networking ranged from one time (in total) to weekly meetings. One participant shared:

> "*(We) formed an "OT Support Group" with a few colleagues in private practice and would hold weekly zoom (sic) sessions to discuss activities, tips, what seemed to work and not work.*"

#### *3.3.2. Social media*

Use of social media sites for connection, problem solving and generation of ideas was a common theme. Participants described using various social media platforms to receive links to materials that can be used for OT telehealth sessions, training sessions and educational videos. Additionally, participants described reading descriptive posts and participating in asynchronous discussions using social media platforms. For example, one participant stated:

> "*I found the Facebook OT forums (especially Pediatric Occupational Therapists) to be a huge resource; so many wonderful people sharing ideas, videos, links and more to help each other out.*"

Table 3
Factor analysis of barriers to telehealth implementation during the pandemic

| Rank the following challenges/barriers you've encountered related to telehealth (from 1 = least significant, 10 = most significant) | Mean | SD | Factor | | |
|---|---|---|---|---|---|
| | | | Activities and materials | Technology | Caregiver/ e-helper availability |
| Planning and organizing activities that could be effectively delivered through telehealth | 6.59 | 2.53 | 0.915 | | |
| Gathering materials for myself for activities that could be effectively delivered through telehealth | 5.37 | 2.65 | 0.840 | | |
| Availability of materials for my students /client to use during our OT sessions via telehealth | 7.12 | 2.62 | 0.613 | | |
| Keeping my student's/client's attention during our OT sessions via telehealth | 6.49 | 2.65 | 0.589 | | |
| My knowledge of and comfort with the use of telehealth technology | 5.36 | 2.64 | | 0.808 | |
| Reliability of the telehealth technology (getting the platform to smoothly do what I wanted it to do) | 5.91 | 2.26 | | 0.731 | |
| Student/clientand/or parent/caregiver's ability to use the platform successfully | 6.51 | 2.20 | | | 0.816 |
| Having a reliable e-helper to assist the student/client during our OT sessions via telehealth | 5.79 | 2.96 | | | 0.721 |
| R square | | | 36.50 | 18.68 | 16.44 |
| Internal reliability | | | $\alpha = 0.81$ | $r = 0.29^{***}$ | $r = 0.39^{***}$ |

$^{***}p < 0.001$.

### 3.3.3. Formal training

Various forms of organizational training were described by participants. These included formal organizational webinars, informal organizational training, research completed and shared with OTPs by leadership and routine meetings to field questions and problem solve. A survey participant wrote:

> "*My organization offered a few webinars on different tools to use. I.e.[sic] Google classroom, Jamboard, Kami.*"

### 3.3.4. Online webinars

Participants described attending virtual webinars offered in a variety of ways. These included accessing paid webinars discovered by colleagues and through social media, webinars offered by professional organizations, and complimentary webinars offered by OT telehealth leaders to support practitioners during the pandemic. The additional co-occurring theme, captured in the participant comment, "*(I) Participated in free online webinars on my own time*", emphasized that OTPs often completed these webinars on their own time, outside of their work day.

## 3.4. Barriers to telehealth

A factor analysis with oblimin rotation (based on the assumption that factors were associated) yielded three factors that together explained approximately 71% of the construct of barriers to telehealth, as presented in Table 3. These three factors were: (1) activities and materials, (2) technology, and (3) caregiver/e-helper availability. Internal reliability between the items in the factor *activities and materials* was calculated using Cronbach's α and was found satisfactory. Because the other factors included only two items, Cronbach's α could not be calculated. The reliability was tested using Pearson's r, which yielded a weak, but highly significant correlation. This indicated that the items measured distinct aspects and were significantly associated.

Additional challenges that were reported on the survey related to navigating workplace policies ($M = 4.17$, $SD = 2.68$), cost of technology ($M = 3.81$, $SD = 2.68$), privacy and security issues ($M = 3.86$, $SD = 2.52$), reimbursement issues ($M = 3.12$, $SD = 2.44$), and licensure issues ($M = 2.87$, $SD = 2.43$). These barriers were not included in the factor analysis because approximately 30% of participants did not rate them, and generally the rating of their perceived significance was low. In addition, 60% of participants indicated that they were unsure if their country had a position statement on the use of telehealth by OTPs.

## 3.5. Confidence

Confidence was measured by the question: "*Please rate the following statement: I feel confident with my ability to deliver OT services using telehealth*".

Table 4
Correlations between barriers to telehealth and confidence

| | Activities and materials | Technology | Caregiver/ ehelper |
|---|---|---|---|
| Confidence | –0.35** | –0.34** | –0.25** |

Note. **=$p < 0.01$.

This question used a 5-point Likert scale ranging from strongly agree to strongly disagree. Most participants indicated that they were very confident in their use of telehealth responding "strongly agree" ($n = 32$, 16.5%) or "agree" ($n = 101$, 52.5%). Some were neutral ($n = 4$, 2%), and others reported that they were not confident in their use of telehealth by responding "disagree" ($n = 17$, 9%) or "strongly disagree" ($n = 2$, 1%). The level of confidence was not found to correlate with years of experience, the number of clients receiving services through telehealth, or practice settings. However, a significant negative relationship was found between participants' confidence and their perception of each of the three barriers, as indicated in Table 4. These findings suggest that OTPs with higher confidence in their use of telehealth perceive barriers as less significant; or, that when barriers are lower, they are able to develop higher confidence.

A Chi square test revealed a significant difference with large effect size (Cramer's $V = .33$) in confidence attributes between participants who indicated that they plan to continue to use telehealth after the pandemic and those who do not. Practitioners who planned to continue using telehealth were generally more confident compared to those who indicated they would not continue to use telehealth after the pandemic.

### 3.6. *Qualitative themes related to barriers and confidence*

Qualitative data was analyzed for themes that provided participants' insights regarding the ways in which they overcome identified barriers. Four themes emerged from the survey's open-response questions as measured by the greatest number of comments per theme and were related to OTPs confidence: (1) obtaining intervention/activity resources ($n = 27$); (2) education and training ($n = 26$); (3) mastering technology to improve OT services delivered through telehealth ($n = 20$); and (4) cultivating e-helper support ($n = 14$). See Table 5 for a summary of themes and select comments from survey participants.

## 4. Discussion

This study surveyed OTPs during September to December 2020 asking them to reflect back to the point in the pandemic at which they implemented the use of telehealth as a service delivery model. Survey participants described their use of telehealth during the pandemic, and how they traversed barriers.

### 4.1. *Widespread adoption of telehealth in OT*

Perhaps not perfectly, there *was* widespread adoption of telehealth for the delivery of OT services during the pandemic. Our findings corroborate the findings of a global study initiated by the World Federation of Occupational Therapists [1], showing a significant transition to telehealth at the first few months of the pandemic. In this study, while 92% of participants reported having no experience using telehealth prior to the pandemic, 99% reported adopting telehealth for OT service delivery during the pandemic. Most participants transitioned to telehealth within days. Training was limited and often relied on the OTPs' own motivation.

### 4.2. *Barriers*

All respondents shared barriers. The most common barriers identified included the lack of intervention materials, challenges with technology, and the need for collaboration with caregivers/e-helpers, when necessary, to support telehealth sessions. Important, yet less common barriers, included costs associated with telehealth (e.g., internet, hardware); policies and payment; privacy and security concerns; and licensure issues (e.g., lack of licensure portability between states). These barriers are consistent with previously identified barriers to telehealth adoption reported by OTPs around the world prior to the pandemic [25]. However, the findings of the study, conducted in 2015, indicated that the cost of technology, payment models, and privacy and security concerns were identified as the main barriers. Other barriers included the need for collaboration with local OTPs to increase their knowledge and skills, consideration of clients' preferences and access to telehealth technologies, and provider competencies to maintain a high standard of care. In the recent 2020 WFOT study [1] conducted during the early stage of the pandemic, similar barriers were identified and included limited access to information and communications technology,

Table 5
Summary of themes and comments

| Themes | Sample comments |
|---|---|
| Planning and organizing activities that could be effectively delivered through telehealth (e.g., intervention resources) | The most frequently occurring theme was related to adapting, designing and accessing intervention resources, strategies, ideas, and tools for effective therapy sessions. Participants also described a desire for more easily accessible intervention ideas, interactive games, and strategies for behavior management in the virtual setting.<br>(I need) " More telehealth friendly materials for myself and clients."<br>(I need) "Streamlined resources, ready to use." |
| Training through formal courses | The desire for additional formal training courses on clinical adaptations for the virtual setting, assessment and evaluation in the virtual setting, and regulatory and policy issues was a frequently mentioned theme. Participants described the need for time to access such training courses, the need for easily accessible courses, and the need for courses that are low-cost to the OT practitioner.<br>(I need) "High quality, low-cost training." |
| Knowledge of and comfort with the telehealth technology and reliability of the technology to perform as intended | The desire for additional formal training courses on use of telehealth virtual platforms; strategies for increasing technological reliability; and smooth, successful use of digital tools was a frequently mentioned theme.<br>(I need) "Better use or knowledge of online tools and resources to use during sessions." |
| Access to actual equipment and technology | Themes related to inequities and inaccessibility of electronic devices including tablets or computer hardware and cameras were also described.<br>(We need) "Equal access to proper technology devices."<br>(I need) "Document cameras for me and my clients." |
| Having a reliable e-helper to assist the student/client during OT telehealth sessions (e.g., parent/caregiver support) | The final frequently occurring theme related to the desire for increased training and support to facilitate coaching e-helpers who assist clients during OT telehealth sessions. OT practitioners described difficulty coaching e-helpers to assist clients in completing therapeutic activities. Additionally, given increased obligations of caregivers working in the home during the pandemic, participants reported that it was difficult for caregivers to balance supporting clients' participation in telehealth sessions with competing responsibilities.<br>(I need strategies on)"How to support parents better and to not add to their burden."<br>"Sometimes giving direction to parents was challenging. They wanted to provide more support and help and I was looking to allow the student to be more independent." |

funding issues; slow change in the health and education systems and technology limitations.

The challenges that were identified by OTPs in the present study were exacerbated by lack of training on the use of telehealth technologies, inconsistency with technology performance, and difficulty adapting to the delivery of OT services through telehealth. Contributing to these challenges were the requirement for quick adoption amidst the pandemic, particularly when the practitioners themselves were under stress related to working from home, social-distancing, personal responsibilities, and concerns connected with the pandemic and the multitude of changes in life routines.

One difficulty related to adapting to the delivery of OT services through telehealth reported by participants was inconsistency in how client progress was monitored. While OTPs reported that they were able to deliver OT services using telehealth, little information is available about the quality of these services or client outcomes. Until data is available on client outcomes, it is difficult to objectively assess the efficacy of services provided through telehealth during the pandemic.

In conjunction with the challenges related to limited supervision and feedback, policy issues (e.g., laws and regulations, licensure requirements, payment) were identified as barriers. Only 70% of participants responded to questions regarding policy. This low response rate may suggest that participants did not view this topic as important or had limited knowledge on the topic. Familiarity with telehealth-related policy can support implementation of telehealth and best practices. In addition, 60% of survey participants were unsure if their country had a position paper on the use of telehealth. The American Occupational Therapy Association (AOTA) has had a position paper [3] related to telehealth since 2005 and most recently updated in 2018. Since the majority of participants were U.S.-based OTPs (97%), this result indicates that there is a need to raise awareness of and promote the use of the AOTA (2018) telehealth position paper as a practice resource among OTPs engaged in telehealth. Reflection on participant-described barriers and the ways in which they navigated the barriers may inform specific supports and actions needed in the future.

### 4.3. Findings on perceived confidence

Findings suggest that OTPs with higher confidence related to use of telehealth found perceived barriers to be less significant. Similarly, when there are fewer barriers, they were able to develop higher confidence. This was revealed by the significant negative relationship between respondents' confidence and their perception of each of the three barriers indicated in Table 4. Practitioners' level of confidence was not found to correlate with years of experience, the number of clients, or practice settings.

### 4.4. Strategies used to navigate barriers

The current findings demonstrate a negative correlation between practitioners' level of confidence using telehealth and the perceived severity of barriers. Qualitative data was analyzed to understand the factors that enhance confidence and resilience, and strategies that were used to navigate barriers. Much of the success experienced in the delivery of OT services using telehealth during the pandemic occurred because OTPs overcame barriers. For example, the five key strategies OTPs used to obtain telehealth training included training within one's organization (e.g., team meetings, telehealth technology trainings, webinars, and peer networking), support from social media (Facebook groups, OT community forums, YouTube, Pinterest), self-directed learning (reading telehealth position papers, guidance documents, etc.), and participating in online telehealth webinars. These strategies are aligned with recommendations made by OTPs who participated in the earlier WFOT survey [1] and indicated the importance of training and education. The strategies shared in our study offer additional and specific suggestions for obtaining training and support in a variety of means, both formal and informal.

### 4.5. Barriers lacking clear descriptions of solutions

One of the most informative questions related to overcoming barriers to telehealth use, and one that received the most responses, was the question: "*Describe what you feel is needed to increase your confidence in the use of telehealth for service delivery*". This question was analyzed for themes. The emerging themes included: (1) obtaining intervention/activity resources; (2) education and training; (3) mastering technology to improve OT services delivered through telehealth; and (4) cultivating e-helper support. Given the sudden onset of the pandemic and need for rapid transition to telehealth, participants described having limited time and opportunity to obtain resources, adapt therapy materials, and learn and practice using telehealth technologies. Additionally, limited time and opportunity were available to thoroughly problem solve towards best practices with e-helpers (parents and caregivers), who were suddenly required to participate in sessions with clients who needed their support. E-helpers were tasked with facilitating implementation of therapeutic strategies under the guidance of OTPs. Some e-helpers did not have experience with technology. Similarly, some OTPs had limited knowledge and experience with a coaching model. Many practitioners collaborated with colleagues to problem solve and generate ideas and strategies. In the future, structured ongoing professional development will be key to support practitioners and promote best practices in using telehealth for OT service delivery.

### 4.6. Participants' plan to continue use of telehealth post-pandemic

Practitioners who reported that they planned to continue using telehealth post-pandemic were generally more confident in their use of telehealth compared to those who indicated that they would not continue to use telehealth. The likelihood of continued telehealth use hinges on the ability to traverse the identified barriers going forward. It is therefore imperative that future advocacy and training efforts include development of telehealth best practices, professional development opportunities related to the use of telehealth and telehealth technologies, reduced barriers to telehealth access (e.g., hardware, software, reliable internet), and enhanced opportunities for OTPs to learn and master coaching skills.

### 4.7. Integration of key findings

This study analyzed the experiences transitioning to use of telehealth as a service delivery model during the pandemic for 182 OTPs and 11 OTAs, with 97.4% from the US and 2.6% practicing in other countries. The study revealed that nearly 92% of practitioners had no experience with telehealth as a delivery model before the pandemic, despite 54% having more than 10 years of OT practice experience. With 52% of practitioners reporting having less than one week to prepare for transition to telehealth and 85% reporting

having less than two weeks to transition to implementing telehealth as a delivery model, various issues arose. The primary issues included (1) availability and coordination of activities and materials, (2) technology issues, and (3) caregiver/e-helper availability and successful integration into sessions. Despite these issues, 69% of OTPs reported agreeing or strongly agreeing that they had confidence in their abilities to deliver OT services using telehealth. However, this study revealed OTPs' expressed desire for additional training, ongoing structured training, improved clarity on policy issues, and support with availability of materials and technology for both practitioners and clients. This supports the importance of available resources, training and support for OTPs who will add telehealth as a delivery model to practice in the future. Based on quantitative and qualitative findings in this study, OTP participants report that such resources and support should include availability of materials for client/student/practitioner use during sessions, comprehensive training that includes activities that can be effectively facilitated through telehealth, training in successful facilitation of e-helpers who will support the client/student during telehealth sessions, and training to support improved practitioner knowledge and comfort with technology. On their own, many OTPs adapted to using telehealth as a delivery model with 69% reporting confidence in their ability to provide OT services through telehealth. With formal training, administrative support, opportunities for OTPs to practice and receive peer support for optimal integration of key resources described here, it is likely that future use of telehealth as an OT service delivery model will bring increased practitioner confidence and improved overall outcomes.

## 5. Limitations

Participants were recruited through social media (OT practitioner groups) and snowball sampling. Many of the social media groups used to recruit participants (11 of 22 total) were related to OT practice for children and youth. Approximately 88% of respondents reported using telehealth for clients aged 0–22 years at the time of the survey. This reflects a high number of pediatric OTPs who participated in the survey, which may have impacted the results. Another limitation related to the timing of the survey. The survey required participants to recall events from the past (e.g., their transition to telehealth during the pandemic). Therefore, when relying on participants' recollection, recall bias is a possibility. Additionally, the survey relied on the perceptions of OTPs with bias. Finally, the study involved a relatively small sample size ($n = 193$) with a significant number of participants from the US (97.4%) and a small percentage of international participants (2.6%).

## 6. Future recommendations

Results revealed that the implementation of telehealth as a service delivery model by OTPs is a very personalized process. There is not one perfect method for mastering the use of technology, adapting interventions, ensuring technology access, or working with e-helpers. There is not a set number of hours that upon completion yields a telehealth mastery status. Certificate and credentialing programs specific to telehealth exist as tools towards telehealth competency but are not succinct opportunities to gain "expert" status. Unintended consequences of such credentialing-type training programs could be the requirement by third-party payors to obtain such credentials in order to receive payment. OT practitioners in the current survey combined multiple professional development strategies to improve their comfort, confidence and competency with telehealth. Social learning and support were needed to bolster confidence and learning. Many strategies were self-initiated and shared, often, informally. These methods can and should be included in ongoing training along with opportunities for structured feedback on successes and areas for growth. Administration and supervisors can support OTPs in telehealth use by facilitating opportunities for professional development; vetting social media support groups; allowing time for practice, mentorship and collaboration; providing consistent support for technological issues; and actively working towards consistent access to reliable technology and internet for all who participate in OT telehealth sessions. Additional research is recommended to focus on recruitment methods that draw balanced percentages of OTPs representing all areas of practice, identification of ongoing confidence boosters for OTPs using telehealth, and data collection on outcomes of services delivered using telehealth as compared to in-person services.

## 7. Conclusions

Results of a global survey on the rapid transition to telehealth use by OTPs asked participants to reflect on their use of telehealth in the early months of the COVID-19 pandemic. The perceived benefits and

barriers to success with using telehealth and its rapid adoption as experienced by OTPs in this study, along with the specific strategies used to promote favorable outcomes, may inform ongoing successful telehealth use in occupational therapy.

## Conflict of interest

None to report.

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