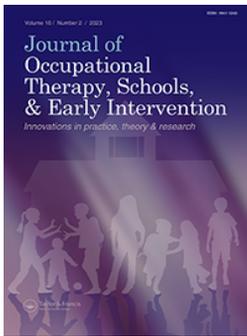


bradscholars

Occupational therapists' perspectives of using telehealth for youth with autism amidst the COVID-19 Pandemic in the UK: A pilot qualitative study

Item Type	Article
Authors	Rosenfeld, K.;Brooks, Rob
Citation	Rosenfeld K and Brooks R (2024) Occupational therapists' perspectives of using telehealth for youth with autism amidst the COVID-19 Pandemic in the UK: A pilot qualitative study. Journal of Occupational Therapy, Schools, and Early Intervention. 17(4): 934-948.
DOI	https://doi.org/10.1080/19411243.2023.2215756
Rights	© 2023 The Author(s). Published with license by Taylor & Francis Group, LLC. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (http://creativecommons.org/licenses/by-nc-nd/4.0/), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.
Download date	2025-09-17 21:18:00
Link to Item	http://hdl.handle.net/10454/19468



Occupational therapists' Perspectives of Using Telehealth for Youth with Autism Amidst the COVID-19 Pandemic in the UK: A Pilot Qualitative Study

Katherine Rosenfeld & Rob Brooks

To cite this article: Katherine Rosenfeld & Rob Brooks (2023): Occupational therapists' Perspectives of Using Telehealth for Youth with Autism Amidst the COVID-19 Pandemic in the UK: A Pilot Qualitative Study, *Journal of Occupational Therapy, Schools, & Early Intervention*, DOI: [10.1080/19411243.2023.2215756](https://doi.org/10.1080/19411243.2023.2215756)

To link to this article: <https://doi.org/10.1080/19411243.2023.2215756>



© 2023 The Author(s). Published with license by Taylor & Francis Group, LLC.



Published online: 19 May 2023.



Submit your article to this journal [↗](#)



Article views: 65



View related articles [↗](#)



View Crossmark data [↗](#)

Occupational therapists' Perspectives of Using Telehealth for Youth with Autism Amidst the COVID-19 Pandemic in the UK: A Pilot Qualitative Study

Katherine Rosenfeld MSc^a and Rob Brooks PhD ^b

^aSchool of Health, Leeds Beckett University, Leeds, UK; ^bSchool of Health Studies, University of Bradford, Bradford, UK

ABSTRACT

The COVID-19 national emergency led to a surging demand for telehealth expansion within pediatric occupational therapy. Despite the growing literature on telehealth as a response to COVID-19, few studies explore the use of telehealth for children and young people with autism spectrum disorder (ASD). This pilot study aimed to understand the experiences of occupational therapists adapting to a virtual delivery service model amidst COVID-19 to support youth with ASD. The researchers used a qualitative research design. Semi-structured, video-based interviews were used to collect data. Interviews were analyzed using thematic analysis. This study included 3 UK registered occupational therapists. Four themes emerged from the data: 1. "Telehealth is Reducing Social Anxiety" 2. "Parents End Up Becoming Your Therapy Assistants" 3. "Nothing Will Replace Face to Face for Assessments" 4. "You Definitely Have to Be More Creative." The themes report that telehealth can reduce social anxiety, increase skill transferability, and improve family involvement. Participants indicated that shorter sessions, movement-based interventions, planning and adapting to home-based resources were strategies that overcame the limitations of virtual therapy. The findings contrast with some previous research that found that telehealth may inhibit engagement and may strain the therapeutic rapport. This study supports existing literature that telehealth can enhance engagement, family involvement and generalization of skills. Findings from this study support the use of telehealth to deliver occupational therapy services for children and young people with ASD, but it is recommended that telehealth should not be a one size fits all service delivery model. Further larger-scale research is needed to confirm the study findings and to explore the family and young person's perspectives of using telehealth.

ARTICLE HISTORY

Received 22 August 2022
Accepted 12 April 2023

KEYWORDS

Autism; telehealth;
COVID-19; occupational
therapy

Introduction and Literature Review

In early 2020, the SARS-CoV-2 novel coronavirus disease (COVID-19) spread worldwide, and by March 2020 a global health emergency was declared (World Health Organization, 2020). COVID-19 incidence rates were rapidly increasing, estimating 3 million reported cases worldwide by April 2020, surging to over 100 million confirmed cases by the end of 2020 (World Health Organization, 2022). The COVID-19

CONTACT Rob Brooks  r.brooks2@bradford.ac.uk  School of Health Studies, University of Bradford, Bradford, UK

© 2023 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

cases quickly spread across the United Kingdom (UK), leading to a national health protection crisis (Kinross et al., 2020). Changes to national and local policy forced many healthcare professionals, including occupational therapists, to make quick and drastic changes to their services. Nonessential face to face contact services were replaced with digital delivery strategies to control the transmission of the virus (Public Health England and Department of Health and Social Care, 2020). School-based therapists were particularly affected by service changes because of school closures and adherence to local COVID-19 guidance, in which therapists needed to swiftly adjust to serving children and families by virtual means wherever possible (Scottish Government, 2020).

Autism Spectrum Disorder (ASD) is characterized by persistent difficulties in communication, social interactions, restricted behavioral patterns, or interests which can significantly impact daily functioning and occupational participation (American Psychiatric Association, 2013). Children and adolescents with ASD are frequently referred to occupational therapists working within schools (Bonnard & Anaby, 2016), clinics, and the community (Ashburner, Rodger, Ziviani, & Jones, 2014) to address occupational performance and engagement challenges in important domains: activities of daily living (ADLs), instrumental activities of daily living (IADLs), play, social participation, education, and sleep (Weaver, 2015). According to a recent study of 7 million children, an estimated 1 in 57 children in England have ASD (Roman-Urrestarazu et al., 2021). There is a similar rise in prevalence of ASD in the United States, most recently averaging 1 in 44 8-year-old children having a diagnosis (Maenner et al., 2021). Individuals with ASD also have high comorbidity rates with intellectual disabilities, psychiatric diagnoses (Fusar-Poli, Brondino, Politi, & Aguglia, 2020) behavioral problems and sensory processing difficulties (Günel, Bumin, & Huri, 2019). The need for ASD specific services and the COVID-19 national emergency led to a surging health care demand and need for an unprecedented telehealth expansion within pediatric occupational therapy. As the profession shifts toward a new, virtual way of working, research on the topic remains limited. Arguably, occupational therapists lack the evidence-based guidance and resources to successfully transition to a digital service model to support youth with ASD.

Digital practice methods are often referred to as *telehealth*, defined by the American Occupational Therapy Association (2018) as “the application of evaluative, consultative, preventative, and therapeutic services delivered through telecommunication and information technologies.” Prior to COVID-19, some evidence-based reviews explored the international use of telehealth in occupational therapy practice, showing to be an increasingly accepted and integrated service delivery model and effective across a range of population groups and diagnoses (Cason, 2014; Hung Kn & Fong, 2019). Within the context of using telehealth to support youth with ASD, contemporary studies conducted prior to COVID-19 discussed how technology could be used to improve access to rehabilitation services for young people with disabilities, including ASD, mostly reporting on its time and cost benefits associated with reduced travel (Camden et al., 2020; Eckberg Zylstra, 2013; Edirippulige et al., 2016; Iacono et al., 2016; Little, Pope, Wallisch, & Dunn, 2018; Sutherland, Trembath, Hodge, Rose, & Roberts, 2019; Wallisch, Little, Pope, & Dunn, 2019). Many of these studies also highlighted how telehealth is a viable alternative to face-to-face services and has the potential to address inequalities in ASD specialist service access for young children living in

rural areas (Eckberg Zylstra, 2013; Iacono et al., 2016; Little, Pope, Wallisch, & Dunn, 2018; Sutherland, Trembath, Hodge, Rose, & Roberts, 2019; Wallisch, Little, Pope, & Dunn, 2019).

In related literature, a systematic review by Camden et al. (2020) explored how virtual occupational therapy interventions using a family coaching approach can be beneficial to improve functional outcomes of children with disabilities, including behavioral and physical functioning. Similarly, Wallisch, Little, Pope, and Dunn (2019) explored the parent perspectives of a family coaching-based intervention for children with ASD, suggesting that the telehealth service model can encourage a strong collaborative relationship between family and therapist and empower families to become more involved in the child's therapeutic journey. These findings were also echoed in a pilot study by Gibbs and Toth-Cohen (2011) which suggested that the use of telehealth can improve carryover of home programs for children with ASD by providing greater opportunities for parental involvement and training.

Studies conducted during COVID-19 have highlighted the importance of embracing telehealth as means to delivery services safely and effectively during a global health care crisis. For example, a systematic review by Ellison, Guidry, Picou, Adenuga, and Davis (2021) that examined the evidence base for telehealth for a range autism service including early intervention, applied behavior analysis (ABA), functional assessment, and parent training indicates that telehealth services were equivalent or better than face-to-face services. Moreover, Camden and Silva (2021) recently publish a scoping review of parent and therapist perspectives using telehealth within pediatric physical and occupational therapy practice during COVID-19. This study explored factors that can influence the effectiveness of telehealth such as, family/child factors, service/therapist capabilities, and logistics of technology, of which they provide examples for each category. Similarly, Priyadharsini and Chiang (2020) explored the telehealth service model COVID-19 experience of a Singaporean occupational therapy outpatient clinic supporting children with difficulties, including ASD, which discussed a range of challenges of using telehealth such as technology quality issues, maintaining ethical and professional standards of practice via internet-based video sessions, parent compliancy with service changes, as well as addressing the challenges of establishing meaningful therapeutic relationships through an online delivery platform.

Camden and Silva (2021) suggest that telehealth is not a one-size fits all intervention and a hybrid approach may be the optimal service model for some therapists and clients which is dependent on environmental and personal capacities and preferences. While both articles discuss the service obstacles of shifting to a virtual service model during COVID-19, research still emphasizes how the innovation of telehealth enabled new cost-effective, accessible opportunities to provide care for families and support the community in a time of need (Priyadharsini & Chiang, 2020). Nonetheless, Camden et al. (2020) highlights that future research should compare virtual interventions to face-to-face interventions, suggesting that there is a lack of well-described evidenced-based literature to date on the effectiveness of telehealth interventions. COVID-19 telehealth research within rehabilitation services further implicates that more research is necessary to understand the feasibility of both occupational therapy assessments and interventions via telehealth for those with ASD and explore the barriers of digital delivery modalities that could create access challenges for families (Camden & Silva, 2021; Ellison, Guidry, Picou, Adenuga, & Davis, 2021; Priyadharsini & Chiang, 2020).

Both the Royal College of Occupational Therapists (2020) COVID-19 guidance and World Federation of Occupational Therapists (2021) public response to COVID-19 encourage clinicians to embrace telehealth and learn to work differently. Despite the growing literature on telehealth as a response to COVID-19, there are very few studies that examine the use of telehealth within pediatric occupational therapy practice for youth with ASD. Furthermore, the literature has not comprehensively discussed occupational therapists' perspectives, nor explored how practitioners adapt or revise their assessments and interventions for use on a digital platform.

This study aimed to explore:

- (1) Occupational therapists' perspectives of using a telehealth to deliver assessments and interventions with children with ASD during COVID-19 and how this compares with face-to-face delivery
- (2) How occupational therapists have adapted their interventions for working with children with ASD on a virtual delivery service model during COVID 19
- (3) How occupational therapists involve families in interventions while using a telehealth service model

Methodology

Design

The researchers used a qualitative design (Braun and Clarke (2013)). A qualitative descriptive approach was used to support a fuller understanding of the phenomenon of interest (Carpenter & Suto, 2008). Semi-structured interviews were used as the data collection method. Descriptive interviews allowed the researchers the opportunity to explore the depth of the lived experience that were unique to the individual and enable greater insight into how the topic is similarly or differently perceived by the participants (McGrath, Palmgren, & Liljedahl, 2019).

Participants

The researchers recruited UK registered occupational therapists who have used a telehealth delivery service model for youth aged up to 16 years with ASD and their families during the COVID-19 pandemic. All participants reported that a large proportion of their caseloads represented autistic youth and their families. The inclusion criteria were:

- (1) Occupational therapists registered with the Health and Care Professions Council and working in the UK.
- (2) Occupational therapists who worked with youth up to and including 16 years old with ASD.
- (3) Occupational therapists who used a virtual delivery service model for at least some their assessments or interventions for children with ASD and their families amidst COVID-19.

- (4) Occupational therapists who delivered the same or similar assessments and interventions within face-to-face services.

Recruitment and Selection

This study has ethical approval from Leeds Beckett University (Approval number 81,393). A purposive sampling method was used to recruit participants with significant knowledge and experience related to the research aims (Bryman, 2016). Members of The Royal College of Occupational Therapist Specialist Section – Children, Young People and Families were emailed study information and were the primary source for recruiting participants. In addition, snowball sampling method was also used to target participants through personal contacts and social media (Naderifar, Goli, & Ghaljaie, 2017).

Data Collection

Prior to data collection participants were provided with study information and given time to consider taking part and to ask questions. Informed consent was gained by all participants prior to the interview. Interviews were recorded and participants assigned pseudonyms. Participation was voluntary and there was a right to withdraw without reason up until the point of data analysis.

The interview questions (see Table 1.) were piloted with an occupational therapist to strengthen the study's credibility (Korstjens & Moser, 2018). Interview questions were sent to participants in advance to encourage depth in topic examination. Interviews were conducted by videoconferencing technology as a reflection of the COVID-19 pandemic and social distancing public health guidance (Public Health England and Department of

Table 1. Interview schedule.

Tell me about the service you work in? where in the United Kingdom
Demographic/background questions – gender, years of experience clinical experience
How long have you worked in pediatrics and with ASD?
How has the service you work in changed in response to COVID-19?
Can you describe details of your experience using a virtual delivery service model for children and adolescents with ASD?
Details on changes using telehealth – how you deliver, who are delivering to (i.e., children, families, parents . . .)
How has the experience been for you?

Can you describe an example of how you have adapted your assessments and interventions methods (and generally your therapy sessions) to fit online practice during the COVID-19 pandemic?
Are there any interventions and assessments that you have stopped using for online delivery?
Can you describe your interventions strategies for using a virtual delivery service model?
How may it be different from or similar to your face-to-face services?
How do you work with families with children with ASD using telehealth?
Can you describe how families engage in interventions and assessments via telehealth?

Can you describe any challenges or barriers with delivering services online?
Can you describe any benefits of using telehealth methods?
Can you describe strategies, skills and techniques that you have used to support the use of telehealth for children with ASD?
Can you describe your feelings about these changes to service? Do you like it or not? Why or why not?
Have you changed your feelings over the course of using it during the pandemic? Why have you changed your feelings?

Table 2. Participant Demographics.

Participant	Gender	Region	Clinical Setting worked with youth with ASD	Age group of service	Years of pediatric practice
Jennifer	Female	South East England	Sensory Integration therapy center	Children & Adolescents	1 year
Brianna	Female	South Wales	Independent practice	Children, Adolescents & Young people	11 years
Kelly	Female	South East England	National Health Service (Specialist complex neurodevelopmental service)	Children, Adolescents & Young people	17 years

Health and Social Care, 2020). As well, video-based rather than telephone interviews were chosen to reduce problems with non-verbal cues to encourage participant engagement (Moser & Korstjens, 2018).

Analysis

Interviews were 40–60 minutes in length and were audio recorded. Interviews were transcribed verbatim by the researchers to capture the perspectives of the participants the way they were uniquely expressed (Braun & Clarke, 2013). The researchers employed Braun and Clarke’s (2006) six-step thematic analysis process to guide the coding of transcripts: familiarization of data, generating initial codes, searching, reviewing, defining, naming themes, and reporting the outcomes. One of the researchers (KR) developed the initial themes and then consulted with researcher (RB) before finalization and defining the themes.

Trustworthiness was established through various methods. An audit trail was completed through note taking and record keeping throughout the research process (Korstjens & Moser, 2018). The audit trail allows for thick descriptions of the research context for readers to evaluate whether the findings of study are applicable to other research and clinical settings (Korstjens & Moser, 2018). The researchers also accounted for personal biases by using reflexive techniques such as journaling to manage discrete Influence on data interpretation (Korstjens & Moser, 2018).

Results

The study had three participants. (Participant demographics are presented in Table 2.). Four major themes emerged from the data representing the participants perspectives on the use of telehealth in an occupational therapy setting for youth with ASD. The themes have been titled using quotes from the participants: 1. “Telehealth is Reducing Social Anxiety” 2. “Parents End Up Becoming Your Therapy Assistants” 3. “Nothing Will Replace Face to Face for Assessments” 4. “You Definitely Have to Be More Creative.”

Theme 1: “Telehealth is Reducing Social Anxiety” (Jennifer)

This theme illustrates how adapting to a telehealth service model enabled young people with ASD to overcome social anxiety and supported communication and engagement with

therapy due to the naturalistic setting and ease of applying skills to real life. Challenges to engaging with youth online were also found.

Jennifer emphasized that face-to-face therapy “created a barrier” for some of her clients, recounting an experience of how one of her clients stopped attending in-person therapy prior to COVID-19 due to anxiety issues. Adapting to a telehealth delivery service mode enabled re-engagement in therapy for this young person during COVID-19. She stated, “*it’s [telehealth] actually helped because he was in his home environment and then was able to engage in therapy doing it online*”. Jennifer further elaborated on the benefits of telehealth to support social communication needs of youth with ASD: “*I definitely think it reduces anxiety for some of them because it is their safe environment and they’re with their family, everything that is around is familiar. Whereas coming to a whole new environment, meeting a new person is just so unfamiliar and can be a bit overwhelming almost sometimes. So, I do think that is one positive I have learned from the telehealth is reducing anxiety, and maybe that’s a way forward to meeting new clients for the first time.*”

Brianna shared a similar experience that demonstrates how the shift to telehealth during COVID-19 supported the social communication needs of one of her young clients with ASD: “*Being on a computer screen has been less forceful or less forced in a way sometimes than actually being there in person . . . there’s a couple of kids I’ve worked with who I would have never seen before COVID because they have social anxieties . . . they can’t leave the house, they can’t wear clothes etc.*” Brianna elaborates on one of her teenage client’s abilities to reengage with remote occupational therapy during COVID-19 due to his sensory difficulties restricting his ability to wear clothes and leave home: “. . . *it [telehealth] actually gave him access to something that he couldn’t get before, so that was quite a revelation.*”

Participant testimonies suggested that the nature of delivering therapy within the home environment using telehealth reduced disruption and stress for young people with ASD and enabled new opportunities to perform occupational therapy assessments and interventions that would have been more challenging or impossible to execute within a face-to-face service.

Notably, all participants highlighted that telehealth methods eliminated the need to generalize skills, as interventions directly address children and family occupational needs within their natural environment. Jennifer reported, “. . . *they’re still able to do the skills because I think they were transferable to the home*”. Kelly further encapsulated this finding: “*It [telehealth] has opened up the world in a different way and you get to see family life in a slightly different context than we would have done before. It definitely has advantages to bring something directly into the home versus bringing a child into clinic and then you’re like yeah, they can do it in clinic, but it means absolutely nothing in relation to whether they’re going to do it at home . . . whereas if you actually do it directly into the home . . . you’re not relying on generalization skill or translation skill.*”

The participants also suggested that engagement due to attentional problems and communication issues occasionally became a challenge with some clients. Jennifer expressed that often parental aid was needed. However, Brianna reported that “*they [youth with ASD] find it a little bit weird, to be kind of like, talking to the computer screen, but most have engaged well*”. Brianna further comments, “*they can fidget or whatever they can, move around, they can go off and find things to bring back to show me and everything.*” However, like Jennifer, Kelly reported having “*varying degrees of success*” maintaining online engagement with her clients, recounting a few times where the younger individuals

turned off the camera or ended the video call without warning. She stated that with these children she needed to “*rethink how we’re going to deliver this*” due to their difficulty maintaining engaging via the technology. Brianna similarly reported that some of her teenage clients did not want to participate in therapy sessions on camera, “*I’ve had a couple of teenage girls who really don’t want you to see them on the camera so that’s been interesting.*” Brianna stated, “*can’t see them at all and then at the very end there like oh you can see me now.*” Kelly suggested that giving her clients “elements of control” helps with engagement. For example, Kelly offered her clients the choice to turn their camera off, which she suggested encouraged participation and supported their individual needs, “*a couple of them I have said look, have your screen on or if you want the flexibility to switch on and off depending on topic we’re talking about, how you’re feeling, that’s fine.*” Kelly elaborated on this point by sharing her experience supporting a 16-year-old girl with ASD who struggles with social communication via telehealth: “*... she actually engages really nicely, but you have to learn autism quite well to know that she’s engaged really nicely ‘cause she’s not on the screen in front of me, but I don’t need her to speak, I just need to know she’s part of the conversation, which she is as much as she can be.*”

Theme 2: “Parents End Up Becoming Your Therapy Assistant” (Brianna)

This theme highlights that the virtual delivery service model compelled and empowered families to become involved in their child’s therapy, which participants found to be critical for successful implementation. Jennifer stated, “*Depending on the child, I’d need the families support as well, so an adult with them would help them depending on their sort of like level of functioning to keep them, like attending to the task, otherwise I can’t really, you can’t do it for them.*” Jennifer reported that within face-to-face services, she would work primarily with the young people and not families. She indicated that telehealth encouraged the therapeutic rapport with families because it forced them to be present during the online session, “*I suppose so, I think for some families it has because some of them I never see say their dad, so it was really nice that their dad was able to come to the online therapy session and that they were able to do that together. It was quite a good bonding experience in that way.*”

Participants suggested that it was useful to have parents and families support for intervention facilitation using the telehealth delivery service model. Jennifer stated, “*I never felt like as if it was worse with them being there. They were always really really supportive of the young people and did help with the modeling side if they couldn’t see what I was doing like with the playdoh and stuff. That really worked well.*” Kelly similarly reported that telehealth requires family involvement, “*you have to coach parents rather than delivering the intervention, I think,*” further stating “*you need to teach them what to do.*” Brianna also elaborated on this finding, “*There are some things that if I was there in person, which I would be physically doing, obviously I can’t do ‘cause I’ve got this barrier between us’ and requires family support to ‘facilitate things’ and ‘repeating instructions’ or ‘adapting what I’ve asked to make sure the kid understands.’*”

Participants also highlighted that telehealth enabled the occupational therapists to empower families’ understanding of their children’s daily challenges and the professional reasoning that underpins occupational therapy interventions to enable the child or young person’s meaningful participation. Jennifer stated, “*It was really useful actually having the parents there . . . I think they saw the understanding more ‘cause a lot of the time they’re not in*

the therapy sessions . . . so I think sometimes it was nice for them to like collaborate and work together on things..” Jennifer expressed that moving to online therapy, “*Gave them [families] a toolkit of things that they could carry on and do at home . . . hopefully that they would do with them with tele-therapy.*” Brianna also reported that “*You could see that understanding developing*” when parents and families became naturally more involved using telehealth. She further comments, “*Parents end up becoming your therapy assistant so that’s good because it up skills them and it helps them to learn about why you do things in certain ways..*” This finding was encapsulated by Brianna who shared an experience of working virtually with a mother of a young boy with ASD during COVID-19, “*Her understanding about him and his needs is just so much better so now, she knows that he’s not just a grumpy kid who refuses to everything, she actually understands why he refuses to everything . . . that transformation in her has been really interesting.*”

Theme 3: “Nothing Will Replace Face to Face for Assessments” (Kelly)

In this theme, the participants emphasized that assessments are generally difficult to deliver remotely for young people with ASD. Kelly stated that “*Nothing will replace face to face for assessments*” and suggested that “*You just can’t with the kids we work with.*” Jennifer also stated, “*I didn’t do any of the assessments online, I did them in face-to-face.*” All participants administered most of their standardized assessments in person rather than online. For instance, all participants mentioned using the Movement Assessment Battery for Children – Second Edition (MABC-2) (Henderson, Sugden, & Barnett, 2007) in their face-to-face practice and how they could not properly revise this assessment for use on an online platform. Brianna suggested that movement-based assessments like the MABC-2 (Henderson, Sugden, & Barnett, 2007) “*Don’t work online.*” Brianna reports on the reasons why she has struggled to carry out assessments any other way than face to face, “*. . . you’ve got a big specific amount of kit that you’re meant to use, and I haven’t worked out a way that I could do that in a standardized way, even without supplying the kit for the family and then like, picking it up afterward, that was like a little bit too complicated to do.*” Brianna further stated that “*I would say things like using standardized assessments for handwriting, visual perception, there’s always more room for error if I’m doing it online compared to if I was there in person with the child administering it as it was designed to be administered in the first place.*”

However, Kelly and Brianna indicated they were able to deliver self-reported questionnaires such as parent interviews using a telehealth service model. Brianna expressed, “*I use a few different questionnaires and checklists I send out mostly online base now so that’s the benefit of that because it’s online it also scores it for you.*” Kelly reported, “*the only one we might do actually on a virtual platform would be the Vineland Adaptive Behavior Scales, but we do that with the parents so there’s not anything that we would do with the kids and it’s an interview questionnaire anyway, so that hasn’t changed.*” Kelly also mentions successfully using the Canadian Performance Measure (COPM) (Law et al., 2014) on a virtual platform to assess and measure outcomes, “*Sometimes I’ll use the COPM with families and that’s nice way to do it . . . That still works well.*”

Theme 4: “You Definitely Have to Be More Creative” (Kelly)

This theme discusses how the telehealth service model required participants to “*Think outside the box,*” as Kelly expressed, in order to adjust to working virtually with youth with ASD. Kelly expressed, “*You definitely have to be creative and really think about how you’re going to do things differently.*” Participants described innovative intervention strategies and adaptations that enabled successful use of a virtual delivery service model.

Brianna and Jennifer reported that they had to shorten their therapy sessions to support the use of telehealth. Brianna stated, “*Definitely the online working has changed how I do it because I split it up over those sessions, ‘cause if I did a really long assessment session, I don’t think the kids would manage that amount of time, it would just be, it would be too much in one go so splitting up seems to work.*” Jennifer also indicated “*they were all able to stay engaged for the whole time, that’s why I shortened the sessions because I just think 50 minutes online would be too long for them.*” Brianna suggested that shorter sessions helped her better understand the children and families, “*it’s not a snapshot anymore, that’s the thing, so it’s it gives me a wider view of the child and their family and how it’s all functioning.*” Brianna also expressed that splitting up her sessions facilitated better rapport building with these young individuals, “*I suppose building rapport as well ‘cause once you see someone three or four times, you kind of start to get to know them, so rather than being the random stranger that comes into school for an hour there’s more of a relationship built with me and the child and family.*”

Incorporating movement-based interventions into online therapy was another strategy discussed by participants to support the use of telehealth for this population. Jennifer stated, “*I’d just make it as movement based as possible because that’s what I do normally you know in the therapy space and make it so gross motor and sensory and just try to involve that in the home environment..*” Brianna also reported, “*I found like movement videos, and I would do them and he would do them at the same time.*”

As well, participants indicated that adapting to limited resources was a key part of addressing the feasibility demands of the telehealth service model. Jennifer expressed, “*I think it’s definitely made me appreciate having so many resources to having nothing because I literally had to use whatever was at home.*” She further comments, “*... we didn’t have the swings, so I just had to adapt and think like what things are calming what things are alerting and organizing and just think of different and more like different ways of getting that input.*” Kelly also stated, “*I definitely have to be more creative. You definitely have to rely on them [families] and their resources rather than perhaps bringing your own in ... I mean very difficult to begin with because you’re kind of like, you’re used to how you work.*” Brianna also stated, “*Not having clinic that’s been interesting ‘cause I need to adapt things to do in their own homes and be safe.*”

Participants also reported that using telehealth involves more planning. All participants described having to do more preparation before sessions using telehealth methods compared to face-to-face therapy. Kelly reported: “*As I think about it, it’s probably more work at the beginning to set it up then there was before so you might have to do a few pre-e-mails, pre phone calls, whatever it might be ...*” Brianna reported similarly: “*I would send them resources to print off before the session we use things like card decks and stuff to work on different motor skills, so like we found ways, but it was a bit more adaptive than I would have normally done ...*” Jennifer also reported needing more preparation: “*A lot of planning, a lot of searching in my house for sort of things that we could do, like different activities for us,*

a lot of searching online on Pinterest for different ideas of activities we can do and how we can apply them and how they meet their goals.”

Discussion and Implications for Practice

This study has explored UK-based occupational therapists' perspectives on the use of telehealth during COVID-19 to support children and young people with ASD. Participants expressed that adapting to a virtual delivery service model revealed new opportunities for therapeutic engagement by reducing social anxiety while also supporting skill transferability by providing interventions within the home environment. Furthermore, participants reported that using a telehealth service model encouraged families to be more involved in therapy and enabled the occupational therapists to educate and coach parents on occupational therapy interventions. Participants discussed the challenges of virtual assessments including engagement online and the limited success of some movement-based and physical evaluations for young people with ASD. However, parent interviews and questionnaires were adaptable for use on a virtual platform. These occupational therapists indicated working online demanded more creativity compared to face-to-face services. Participants suggested that shorter sessions, movement-based interventions, planning and adapting to resources available within the home were strategies that overcame some limitations of virtual therapy targeting children with ASD.

Existing occupational therapy literature on the practice of telehealth for youth with ASD is limited; therefore, research has mainly been drawn from occupational therapy studies that discuss the use of telehealth for children with disabilities. Surprisingly, findings that suggest telehealth can reduce social anxiety contrasts with existing literature, which was previously suggested that technology can inhibit engagement and may strain the therapeutic rapport with children with complex needs (Camden & Silva, 2021; Priyadharsini & Chiang, 2020). However, these studies had not specifically investigated the telehealth engagement of young people with ASD. The findings that indicate that telehealth can support skill transferability for youth with ASD aligns with research by Camden and Silva (2021) and Gibbs and Toth-Cohen (2011) which also discussed the positive aspects of supporting children with difficulties in their natural environment via telehealth methods. Furthermore, findings that explore how telehealth can empower family involvement and enable family education aligns with other studies (Camden & Silva, 2021; Camden et al., 2020; Gibbs & Toth-Cohen, 2011; Iacono et al., 2016; Wallisch, Little, Pope, & Dunn, 2019), however the existing literature has not thoroughly discussed the point of view of pediatric occupational therapists working with ASD populations. This study also found that there are challenges of delivering remote assessments which is echoed in research by Camden and Silva (2021). Problems with virtual delivery of physical assessments like the MABC-2 (Henderson, Sugden, & Barnett, 2007) were also reported by Camden and Silva (2021), however, this theme was not a primary aspect their scoping review. In contrast to current research, there are no well-described studies that have discussed how occupational therapists revise their interventions for use on a virtual delivery service model. Yet, research has asserted that future research is needed to understand how to successfully adapt interventions to online platform (Camden & Silva, 2021; Priyadharsini & Chiang, 2020).

Findings from this study suggests that telehealth can successfully be used to deliver occupational therapy services for children and young people with ASD. Uniquely, this study

revealed that telehealth may improve therapeutic engagement by alleviating the pressures of face-to-face social communication that are often experienced by individuals with ASD. Furthermore, this study supports existing research on using telehealth to effectively support family-centered approach to practice, aligning with the relevant research on the topic. While telehealth was found to have some advantages compared to face-to-face services, these occupational therapists suggest that some elements of in-person practice are preferred and more challenging to adapt to an online platform. The main concerns of using telehealth reported were feasibility issues, such as lack resources and physical distance, which at times reported to impact the quality or practicality of delivering of assessments and interventions. Emphasized by Camden and Silva (2021), telehealth is not one size fits all service delivery model. A client-centered approach should be considered when using telehealth methods to meet the individual needs of the child or young person. Nevertheless, the demand for telehealth innovations amidst the COVID-19 pandemic generated a new modality of delivery services to address occupational needs of vulnerable populations. While literature remains limited, this study suggests that telehealth can be a viable means to support families and children with ASD, and a way forward may be a blended approach to therapy. Further larger-scale research is needed to confirm the findings of this pilot study. Future research directions include further understanding family and young people's perspectives on the use of telehealth. As well, research is needed to understand the barriers of delivering virtual assessment to families and youth with ASD to improve virtual therapy services.

Limitations

One limitation of this study is the small sample size, which limits the transferability of findings to other clinical settings and populations. While qualitative research supports the use of a small sample size due to having “information power” replication with a larger sample size is recommended to confirm the results from the research (Malterud, Siersma, & Guassora, 2016). Moreover, participants were primarily recruited from one specialist group, therefore self-selection bias is possible (Robinson, 2014).

Conclusion

This study aimed to understand the experiences of occupational therapists using telehealth methods amidst COVID-19 to support youth with ASD. Participant reports suggest that telehealth can reduce social anxiety and improve engagement in therapy youth with ASD. Findings also indicate telehealth methods can encourage families to more involved in therapy. Furthermore, the study revealed that the occupational therapists may face some challenges with virtual assessments and operating with limited equipment and resources to delivery interventions. However, these practitioners reported using creative, adaptive strategies to overcome the barriers of working remotely. Therefore, this study suggests occupational therapists view the telehealth service model to be a valuable method of delivering occupational therapy to this population and should move forward as a standard practice method. However, more research is needed. Future directions will require research on family and therapist perspectives on the use of telehealth to better understand how telehealth can be utilized to deliver interventions to foster therapeutic engagement and sustain its use in practice. Future research is also needed to understand the barriers of

delivering virtual assessments. The innovation of remote occupational therapy is an opportunity to reflect on current practice and consider the benefits of alternative approaches to delivery interventions to children and young people with ASD.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ORCID

Rob Brooks PhD  <http://orcid.org/0000-0002-7104-0099>

Data Availability statement

The data that support the findings of this study are available from the corresponding author, [RB], upon reasonable request.

Research Ethics

Full Ethics approval from Leeds Beckett University (Approval #81393) received for this study.

References

- American Occupational Therapy Association. (2018). AOTA position paper: Telehealth in occupational therapy. *The American Journal of Occupational Therapy*, 72(Supplement_2), 7212410059p1–7212410059p18. doi:10.5014/ajot.2018.72S219
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders*. (5th). doi: 10.1176/appi.books.9780890425596
- Ashburner, J., Rodger, S., Ziviani, J., & Jones, J. (2014). Occupational therapy services for people with autism spectrum disorders: Current state of play, use of evidence and future learning priorities. *Australian Occupational Therapy Journal*, 61(2), 110–120. doi:10.1111/1440-1630.12083
- Bonnard, M., & Anaby, D. (2016). Enabling participation of students through school-based occupational therapy services: Towards a broader scope of practice. *The British Journal of Occupational Therapy*, 79(3), 188–192. doi:10.1177/0308022615612807
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. doi:10.1191/1478088706qp063oa
- Braun, V., & Clarke, V. (2013). Preparing audio data for analysis: Transcription. In V. Braun & V. Clarke (Eds.), *Successful qualitative research: A practical guide for beginners* (pp. 161–172). London, UK: Sage Publications.
- Bryman, A. (2016). Sampling in qualitative research. In A. Bryman (Ed.), *Social research methods* (pp. 407–421). Oxford, UK: Oxford University Press.
- Camden, C., Pratte, G., Fallon, F., Couture, M., Berbari, J., & Tousignant, M. (2020). Diversity of practices in telerehabilitation for children with disabilities and effective intervention

- characteristics: Results from a systematic review. *Disability & Rehabilitation*, 42(24), 3424–3436. doi:10.1080/09638288.2019.1595750
- Camden, C., & Silva, M. (2021). Pediatric telehealth: Opportunities created by the COVID-19 and suggestions to sustain its use to support families of children with disabilities. *Physical & Occupational Therapy in Pediatrics*, 41(1), 1–17. doi:10.1080/01942638.2020.1825032
- Carpenter, C. M., & Suto, M. (2008). *Qualitative research for occupational and physical therapists: A practical guide*. Oxford, UK: Wiley.
- Cason, J. (2014). Telehealth: A rapidly developing service delivery model for occupational therapy. *International Journal of Telerehabilitation*, 6(1), 29–36. doi:10.5195/ijtr.2014.6148
- Eckberg Zylstra, S. (2013). Evidence for the use of telehealth in pediatric occupational therapy. *Journal of Occupational Therapy, Schools, & Early Intervention*, 6(4), 326–355. doi:10.1080/19411243.2013.860765
- Edirippulige, S., Reyno, J., Armfield, N. R., Bambling, M., Lloyd, O., & McNeven, E. (2016). Availability, spatial accessibility, utilisation and the role of telehealth for multi-disciplinary paediatric cerebral palsy services in Queensland. *Journal of Telemedicine and Telecare*, 22(7), 391–396. doi:10.1177/1357633X15610720
- Ellison, K. S., Guidry, J., Picou, P., Adenuga, P., & Davis, T. E. (2021). Telehealth and autism prior to and in the age of COVID-19: A systematic and critical review of the last decade. *Clinical Child & Family Psychology Review*, 24(3), 599–630. doi:10.1007/s10567-021-00358-0
- Fusar-Poli, L., Brondino, N., Politi, P., & Aguglia, E. (2020). Missed diagnoses and misdiagnoses of adults with autism spectrum disorder. *European Archives of Psychiatry and Clinical Neuroscience*, 272(2), 187–198. doi:10.1007/s00406-020-01189-w
- Gibbs, V., & Toth-Cohen, S. (2011). Family-centered occupational therapy and telerehabilitation for children with autism spectrum disorders. *Occupational Therapy in Health Care*, 25(4), 298–314. doi:10.3109/07380577.2011.606460
- Günal, A., Bumin, G., & Huri, M. (2019). The effects of motor and cognitive impairments on daily living activities and quality of life in children with autism. *Journal of Occupational Therapy, Schools, & Early Intervention*, 12(4), 444–454. doi:10.1080/19411243.2019.1604286
- Henderson, E. S., Sugden, A. D., & Barnett, L. A. (2007). *Movement assessment battery for children-2*. Pearson Education.
- Hung Kn, G., & Fong, K. N. (2019). Effects of telerehabilitation in occupational therapy practice: A systematic review. *Hong Kong Journal of Occupational Therapy*, 32(1), 3–21. doi:10.1177/1569186119849119
- Iacono, T., Dissanayake, C., Trembath, D., Hudry, K., Erickson, S., & Spong, J. (2016). Family and practitioner perspectives on telehealth for services to young children with autism. *Studies in Health Technology and Informatics*, 231, 63–73. doi:10.3233/978161499712263
- Kinross, P., Suetens, C., Gomes Dias, J., Alexakis, L., Wijermans, A., Colzani, E. ECDC Public Health Emergency Team. (2020). Rapidly increasing cumulative incidence of coronavirus disease (COVID-19) in the European Union/European economic area and the United Kingdom, 1 January to 15 March 2020. *Euro Surveillance*, 25(11), 2000285.
- Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *The European Journal of General Practice*, 24(1), 120–124. doi:10.1080/13814788.2017.1375092
- Law, M., Baptiste, S., Carswell, A., McColl, M. A., Polatajko, H., & Pollock, N. (2014). *Canadian Occupational Performance Measure* (5th ed.). Ottawa, Canada: CAOT Publications ACE
- Little, L. M., Pope, E., Wallisch, A., & Dunn, W. (2018). Occupation-based coaching by means of telehealth for families of young children with autism spectrum disorder. *The American Journal of Occupational Therapy*, 72(2), p72022050201–72022050207. doi:10.5014/ajot.2018.024786
- Maennner, M. J., Shaw, K. A., Bakian, A. V., Bilder, D. A., Durkin, M. S., Esler, A., Cogswell, M. E. (2021). Prevalence and characteristics of autism spectrum disorder among children aged 8 years — autism and developmental disabilities monitoring network, 11 sites, United States, 2018. *Morbidity and Mortality Weekly Report Surveillance Summary*, 70(11), 1–16. doi:10.15585/mmwr.ss7011a1

- Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: Guided by information power. *Qualitative Health Research, 26*(13), 1753–1760. doi:10.1177/1049732315617444
- McGrath, C., Palmgren, P. J., & Liljedahl, M. (2019). Twelve tips for conducting qualitative research interviews. *Medical Teacher, 41*(9), 1002–1006. doi:10.1080/0142159X.2018.1497149
- Moser, A., & Korstjens, I. (2018). Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *The European Journal of General Practice, 24*(1), 9–18. doi:10.1080/13814788.2017.1375091
- Naderifar, M., Goli, H., & Ghaljaie, F. (2017). Snowball sampling: A purposeful method of sampling in qualitative research. *Strides in Development of Medical Education, 14*(3), e67670. doi:10.5812/sdme.67670
- Priyadharsini, H., & Chiang, J. J. (2020). Embracing telehealth: Supporting young children and families through occupational therapy in Singapore during COVID-19. *World Federation of Occupational Therapists Bulletin, 76*(2), 90–93. doi:10.1080/14473828.2020.1822574
- Public Health England and Department of Health and Social Care. (2020). *COVID-19: guidance for health professionals*. Retrieved from <https://www.gov.uk/government/collections/wuhan-novel-coronavirus>
- Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative Research in Psychology, 11*(1), 25–41. doi:10.1080/14780887.2013.801543
- Roman-Urrestarazu, A., van Kessel, R., Allison, C., Matthews, F. E., Brayne, C., & Baron-Cohen, S. (2021). Association of race/ethnicity and social disadvantage with autism prevalence in 7 million school children in England. *JAMA Pediatrics, 175*(6), e210054. doi:10.1001/jamapediatrics.2021.0054
- Royal College of Occupational Therapists. (2020). *Coronavirus (COVID-19)*. Retrieved from <https://www.rcot.co.uk/coronavirus-covid-19-0>
- Scottish Government. (2020). *Coronavirus (COVID-19): guidance on preparing for the start of the new school term in August 2020 - version 2*. Retrieved from <http://www.gov.scot/publications/coronavirus-covid-19-guidance-preparing-start-new-school-term-august-2020-version-2/>
- Sutherland, R., Trembath, D., Hodge, M. A., Rose, V., & Roberts, J. (2019). Telehealth and autism: Are telehealth language assessments reliable and feasible for children with autism? *International Journal of Language & Communication Disorders, 54*(2), 281–291. doi:10.1111/1460-6984.12440
- Wallisch, A., Little, L., Pope, E., & Dunn, W. (2019). Parent perspectives of an occupational therapy telehealth intervention. *International Journal of Telerehabilitation, 11*(1), 15–22. doi:10.5195/ijt.2019.6274
- Weaver, L. L. (2015). Effectiveness of work, activities of daily living, education, and sleep interventions for people with autism spectrum disorder: A systematic review. *The American Journal of Occupational Therapy, 69*(5), 6905180020p1–6905180020p11. doi:10.5014/ajot.2015.017962
- World Federation of Occupational Therapists. (2021). *Public Statement - Occupational Therapy Response to the COVID-19 Pandemic*. Retrieved from <https://wfot.org/about/public-statement-occupational-therapy-response-to-the-covid-19-pandemic>
- World Health Organization. (2020). *Responding to community spread of COVID-19: interim guidance, 7 March 2020*. Retrieved from <https://www.who.int/publications/i/item/responding-to-community-spread-of-covid-19>
- World Health Organization. (2022). *WHO coronavirus (COVID-19) dashboard*. Retrieved from <https://covid19.who.int/>