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Physiotherapists' Perspectives on the use of Telehealth for Service Delivery to Children with Developmental Delays: A Qualitative Focus Group Study

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Abstract

Purpose: The purposes of the study are to (1) determine what barriers and facilitators physiotherapists perceive to using telehealth, (2) to determine willingness to use and (3) to determine perspectives on training in the use of telehealth. **Method:** This is a qualitative semi structured interview and focus group design. Participants were recruited from the first stage of the larger research process using purposive sampling. A semi structured guide was used to facilitate discussion of shared experiences and to allow themes to emerge from the discussion. **Results:** Thematic analysis was used to synthesise frequent and important themes. Ten participants took part in either a focus group (n=7) or interview (n=3). Nine main themes identified were split into barriers and facilitators. Facilitators were the right family, right child, adequate technology and space, and collaboration. Barriers were technology, time management, lack of physical touch, lack of organisational support, and work environment. **Conclusion:** Results suggest that physiotherapists working with children with developmental delay consider telehealth to be unsuitable to replace face-to-face therapy entirely but are willing to use it to provide follow up services to the right family and the right child. Physiotherapists in the study were positive about telehealth's potential to improve services to children in rural areas. Physiotherapists said that specific physiotherapy training in telehealth was currently lacking.

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ABSTRACT

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Keywords: physiotherapy, children, telehealth

INTRODUCTION

Telehealth is defined as the delivery of health services over a geographical distance using telecommunications technology.¹ Telehealth has previously been researched as a potential solution to inequities in health outcomes and service gaps in rural Australia.^{2,3} Rural towns have poor retention of physiotherapists while the children in these areas of Australia have poorer health outcomes than children who live in metropolitan areas.^{3,4}

A recent systematic review reported perceptions of only two physiotherapists on using telehealth for children with developmental delay.⁵ Perspectives of other allied health professional groups have been studied in greater detail than the physiotherapy profession. Most perspectives found were those of speech pathologists, but also included occupational therapists and physiotherapists.⁵ Themes were that telehealth could not replace face-to-face services, technology failure, lack of self-efficacy, interference with rapport, time management, improved access to services, collaboration with stakeholders, and benefits to families.⁵

Developmental delay occurs when children do not meet developmental milestones at the same time as their aged-matched peers.⁶ There may be a diagnosis that coincides with the delay, such as an intellectual disability or a neurological or chromosomal condition, or delay may occur with an absence of diagnosis.⁶ Delay in physical development is present in around 50,000 boys and 30,000 girls under 14 years old in Australia.⁷ A total of 7.4% of Australian children are effected across all areas of delay.⁷ The proportion of children with severe delay is highest in inner regional areas and the lowest in major cities.⁷

Children with a developmental delay experience significant restrictions in participation and daily life roles.⁸ Physiotherapy interventions primarily address the physical aspect of the delay and can include perceptual motor therapy ("doing" tasks in context), exercise programs, weight bearing training, spatial training, and parent facilitated exercises.⁸ Physiotherapists provide equipment advice and fitting, assessment of muscle tone, range of motion, and strength training, all through some use of touch.⁹ Telehealth services are inherently free from touch; therefore, it is expected that physiotherapists may perceive some barriers to telehealth service delivery.¹⁰

Telehealth use has increased throughout the Covid-19 pandemic with Camden and Silva reporting 70% of allied health clinicians use telehealth in their work with children now compared to 4% pre-Covid.¹¹ Four out of five Australians increased their use of telehealth videoconferencing during the pandemic.¹² Whilst telehealth use increases, the research lags behind. The aims of this study were to (1) determine what barriers and facilitators physiotherapists perceive to using telehealth, (2) to determine willingness to use telehealth, and (3) to determine perspectives on training in the use of telehealth.

METHOD

A qualitative focus group design with semi structured questioning was chosen to allow flexibility to explore thoughts and beliefs and to add depth and meaning to the data from the survey arm of the study^{13,14} Ethical approval for this study was granted by the JCU Ethics Committee: H8256.

Recruitment

A purposive sample was taken from the participant pool of a survey design study undertaken by the authors.¹⁵ The target group was physiotherapists registered with the Australian Health Practitioner Regulation Agency (AHPRA) who work with children at least one day a week, on average. The survey participant group was recruited through purposive sampling and snowballing as the characteristics of the target group are unknown and difficult to reach.¹⁶

On completion of the survey, participants were asked if they would like to participate in focus groups or interviews. As explained in the survey information sheet, if they chose to provide contact details for a focus group, their survey responses were no longer anonymous, but would remain confidential. Twenty participants provided contact details for Stage 2. Purposive sampling was used to take a sample with a diverse range of characteristics including age, experience level, location, rurality, and frequency of use of telehealth.¹⁶ Ten participants took part in focus groups or interviews. Focus groups and interviews ceased once data saturation was achieved.¹⁷

Data Collection

The interview guide was written to meet the research aims and supported by themes identified in a systematic review conducted by the authors.⁵ The interview guide included questions about experiences with telehealth, training received, barriers, facilitators, and feelings around future use. The interview guide is included as Appendix 1. Five physiotherapists with paediatric experience reviewed the guide for face validity. Three focus groups were conducted over Zoom in May 2021. Three interviews also took place over Zoom to accommodate participants who could not attend the focus groups. Consent was gained to record and transcribe the discussions. Participants were not anonymous, but their answers were kept confidential. Participants could leave the focus groups at any time. The moderator (Author 1) took field notes and summarised back to the participants for confirmation at the end of each focus group or interview.¹⁸ Author 2 listened to focus group recordings to control bias introduced by the moderator.¹⁸ Focus groups took between 45 minutes to an hour and interviews took between

30 minutes to 45 minutes. A semi structured format was used to elicit discussion around perspectives of participants toward using telehealth for service delivery to children with developmental delays.¹³

Data Analysis

Inductive thematic analysis was chosen to allow themes to emerge from the data.¹⁹ Data was analysed using a seven-step thematic approach described by Braun and Clarke.²⁰ Step 1) Transcribing, was completed by an external service. Transcriptions were then de-identified by Author 1 before being shared with Author 2 for steps 2) Reading and 3) Familiarisation. Author 1 and Author 2 read and re read the transcriptions and referred to Author 1 field notes from the focus groups and interviews.

Authors 1 and 2 then moved on to Step 4) Coding, using NVivo Software.²¹ Semantic codes were used to reflect the intent and meaning of the participants²⁰. Authors 1 and 2 met via Zoom to discuss and agree upon each code. Repeated codes were merged, and non-repeated codes were discussed, and if suitable, included in the final codes. Significant codes and frequent codes were transformed to themes. Steps 5) Searching and 6) Reviewing were completed by continuing to search for patterns and refine themes to ensure they were underpinned by central organising concepts while also meeting the objectives of the research.²⁰ Authors 1 and 2 met via Zoom to discuss and agree upon patterns and their relationship to the research aims before moving to Step 7) Finalising the themes.

RESULTS

The themes that emerged from the data analysis were grouped into facilitators and barriers. Facilitators were the right family, the right child, adequate technology and space, and collaboration. Barriers were technology, time management, lack of organisational support, lack of physical touch, communication, and work environment.

The motivator behind using telehealth was described by nine of the ten participants as being due to face-to-face services not being available as a result of Covid-19 restrictions or lockdowns. Participants described a period during which all their services were provided via videoconferencing platforms, with the time-period being dependent on the location of the therapist. One participant worked for a permanent telehealth service where services were provided remotely to palliative paediatric patients in rural communities; most of their work related to palliation but included treatment of developmental delay if appropriate for the child. This was the only exception to telehealth being implemented due to the Covid-19 pandemic. Physiotherapists reported that when face-to-face services were allowed in their area, they usually reverted to using face-to-face services due to their own and family preferences.

Facilitators

The Right Family

Physiotherapists said that picking the right family was important in an effective telehealth service. Aspects of the “right family” were parents understanding their role in telehealth, being present and prepared, having a reliable internet connection and a suitable device and being able and willing to follow therapists’ instructions. Physiotherapists also reported that a previously established relationship with the child and family was helpful in using telehealth.

“It’s picking the right family, I suppose. And the families that want to see you more are often the ones that will do what you recommend and want to be more hands-on and involved with their children.” P3

“I think a lot really depended on the skills of the parent, how engaged, how competent, how good at handling they were, all the technical things, what their internet connection was like, what device they were using.” P2

Physiotherapists reported that parents who were positive and took initiative in setting up the space, facilitated an effective telehealth service. In contrast, parents who were overwhelmed, were not confident with technology, were looking after other children or who were trying to work from home at the same time were not able to be effective in helping meet the goals of each telehealth session.

“The poor parents are overwhelmed” P8

“Another young mum who said, “Oh yeah, that would be great. I won’t have to come,” and was really positive and set the space up quite spontaneously herself, had it all ready and set up with the camera in the right place, just had the confidence to think it through and work out what would work.” P5

For these “right families” there were the benefits of increased convenience and reduced travel. One participant reported that more families could access after school visits as there was no time lost to her travelling between appointments. One participant reported that while it was rare, some families continued to request telehealth when it was no longer required due to Covid-19 restrictions in their area.

"It's mostly been because they liked the timing of the Zoom sessions because you can fit more of them in after school times for example without having to travel, or the parents having to travel." P10

"They didn't have to worry about travel. They didn't have to worry about upsetting the child in their routine. Some children don't like strangers, they don't like strange places. So, for a couple of families – but I'm talking maybe three or four out of a hundred, they wanted to keep going." P7

The Right Child

Physiotherapists said that some children were more suitable than others for telehealth. Pre mobile children who would stay within the view of the camera and were supported by an engaged parent were manageable via telehealth. On the other end of the spectrum, older children who were previously known to the therapist and understood instructions and were able to engage with their intervention via the screen also had some effective sessions. Physiotherapists said that toddlers were very difficult to treat via telehealth as they would often run away or struggle to engage via the screen.

"I think I had some 13, 14-year-olds who were already established in a program before we had to start doing telehealth that we'd got results from." P1

"It was harder to keep that engagement because mum would talk to me on the computer and then he'd run off." P5

"I also found working with very young children was easier than working with older children because they're in one spot and you can set things up and they don't move. Toddlers were really hard because they move so much and so to try and do things with them in one position was really tricky." P2

Children with complex disabilities impacting their communication were considered difficult to be effective with via telehealth as physiotherapists felt they could not engage them through a screen.

"Why it worked well would be within the child themselves is probably not having a cognitive or intellectual disability." P1

Children with complex physical disabilities, specifically children with Cerebral Palsy Gross Motor Function Classification System (GMFCS) Levels IV and V were considered very difficult to treat via telehealth due to high manual handling and equipment needs as the physiotherapist felt unable to communicate with the parent or caregiver exactly what was needed. One participant gave an example of a child with high manual handling and seating needs that she felt was completely unsuitable for telehealth and was instead treated in person.

"I did have one young boy who – GMFCS5... in the end we decided – because he was a big lad, he needed positioning as soon as we could possibly do it." P1

Physiotherapists reported some surprising positive experiences where they had success engaging the child in ways similar to what they might in a face-to-face session.

"She (mum) was able to put the laptop with my face on it right in front of him. And that was really interesting that this child could actually enjoy that – I was singing to him from the computer." P5

Adequate Technology and Space

Physiotherapists said that technology and space both on their end and the family end were important for facilitating an effective telehealth service. Physiotherapist and family space and technology facilitators are summarised in Table 1.

"A family who's got the right technology, a good stand, a good set up, a good space to have it where they've got room to move around." P10

"They had a stationary camera looking down on one space that we could then work with." P7

"I would like to have access to mobile devices that I can either use in a proper therapy space or to take them out to a client's home to access some of those other services." P5

"I think the thing that makes it easiest to use is to have a good internet connection." P4

Table 1: Technology and Space Facilitators: Physiotherapists and Families

Physiotherapist	Family
<ul style="list-style-type: none"> • Mobile devices to take to home sessions for collaborating with a remote therapist. • Laptop or computer with a private room with space for demonstrating therapy. • Good internet connection. 	<ul style="list-style-type: none"> • Access to an appropriate device for their child. Mobile device for a moving child. Stationary camera looking at a designated space for observing movements. • Enough space to move around for the purposes of therapy. • Good internet connection.

Collaboration

Physiotherapists frequently reported telehealth as a way to collaborate with other professionals in different locations. There were some instances where physiotherapists found it difficult to communicate with very inexperienced therapists.

"I found it much harder with the therapist if they were junior." P3

It was also difficult for physiotherapists to support students who were linking in over telehealth as the students were unable to see properly. The participant reported it was "better than nothing" for the students but not ideal.

"But we also felt like we weren't doing the best job for the family because we were busy trying to teach someone who wasn't there and who couldn't see very well either." P2

However, most experiences of providing and receiving support from another therapist were very positive. In particular, it was identified that participants felt that children in remote sites could still receive effective care when the therapist on site with them was supported.

"I think one child was with Down's syndrome, another one with cerebral palsy and so I could coach them through it and because there were therapists there, they were holding the cameras at the right angles, they knew what I was talking about, what I was looking at so I could coach them through that stuff." P1

Physiotherapists also identified telehealth as useful for rural locations to collaborate with central sites. For example, the therapist could be at the rural site with the child with other professionals from a metropolitan centre attending remotely. In addition, physiotherapists reported that using telehealth to collaborate could save the family travel and money.

"I use it a fair bit too with linking into Sydney, so say a child's got to go back to the rehab visit and I can link in with all the therapists all in one and close to home. And if that saves the child eight hours and parents overnight costs, it can save hundreds of dollars." P3

"There was one child who was actually out on Tiwi Island which was super-exciting to think I had an influence up there on the health of these young - and they were young therapists out there doing their best so it was nice, that was good." P1

One participant reported that collaborating with central sites has been easier since the Covid-19 pandemic.

"And I suppose prior to COVID, the Women's and Children's (central hospital) were really just can't do type of approach to it, just didn't see it as an option. So, what's facilitated it for me is that everybody has had to do it and so it's become possible." P5

Barriers**Technology**

Technology was frequently reported as a barrier to implementing effective telehealth. Physiotherapists said that a lack of a suitable device both on their end and the families end was a barrier and that internet connection and drop out was another issue. Physiotherapists reported that the family's internet was more likely to be an issue as they were often more rurally located than the therapist.

"They're always going to have worse internet than you most likely. So, when you're trying to call these really regional, remote places that have to stand up on one leg, hand on their head facing the sunlight to get signal, that's tricky." P4

Another technological barrier was families not having the right technology for the physiotherapist to see the child. Children that constantly moved were difficult to see from a stationary camera and conversely, children that could stay within a designated area were not best seen from a mobile device as the device would keep moving or shaking and reducing visibility, for example...

"The parents trying to follow them with the camera on the – either on their laptop or on a phone and the handheld thing and you're shaking because you're trying to see where the child – is really, really hard to get good enough quality images to actually see what you're needing to see in a mobile, busy child." P5

Physiotherapists reported that the best technology set up depended on the child and the assessment or intervention they were trying to perform and what they needed to be able to see on the day. Physiotherapists reported that not being able to see resulted in inaccurate assessments.

"They sat on the floor and then they move that camera down, so I didn't see him get to the floor and then a realised when he came in he can't actually even get himself to the ground... so I've just totally overestimated his mobility because of the fact that I didn't see these transitions." P8

Physiotherapists generally reported that they were not initially confident with the technology but that they learned from experience, although three participants reported that they found the platforms easy to use initially.

"That's one thing that I guess I'd used Zoom before but I was still a little bit nervous about IT crashing or something like that." P9

"It's learning on the job because we didn't have a choice, and then working backwards from that." P7

Time Management

Physiotherapists reported that initially telehealth was more time consuming than face-to-face due to searching for suitable resources to engage the child during sessions and to plan for the session and prepare the family.

"I just remember working weekend after weekend after weekend trying to just have that library at my fingertips that I could send out." P1

"I found it took a lot longer in terms of we don't have admin support so in terms of the setting up and the emailing of families and getting all the links set up... it just took hours." P2

Physiotherapists said that they could not expect to get as much done via telehealth as they would face to face. It was reported that sessions had to be shorter as children could often not engage for a longer session (any greater than 30 minutes) with the screen.

"It is going to take longer and being allowed for it to take longer and you're only going to be able to – in a normal session you might do this much, in telehealth you can do this much and that's the nature of what it is and that's okay." P2

Lack of Organisational Support

Physiotherapists said that their transition to telehealth had been rushed due to the Covid-19 pandemic and that instructions from their organisation had been inconsistent. It was reported that the transition occurred 'overnight' and that limited and sometimes no training had been received.

"I don't think we ever had training. "Here's your password. Good luck," everyone to telehealth instantly because of COVID." P4

"I think – if we're continuing to have the problems that we're having, I think it's more due to the push to everyone onto it straightaway. If it had been a more gradual introduction, it would have been more successful." P4

In general, physiotherapists felt that the sudden transition was unavoidable, for example,

"I think before going live it would have been great to have had training on how to use it... and some treatment ideas and ways of managing that way. But it was such a sudden change... that there wasn't that feasibility to put that training in." P7

However, as continued use of telehealth progressed during lockdowns and restrictions in various states of Australia, physiotherapists reported an ongoing lack of organisational support of telehealth practice. Participants reported that there was a lack of physiotherapy specific training available, lack of IT support for technological issues, lack of IT infrastructure and lack of guidance around privacy and safety. One participant reported confidentiality as a major obstruction to delivering a telehealth service with lack of private space to conduct the session, lack of individual passwords and lack of suitable features of the platform to ensure that the family's privacy was protected.

"All of a sudden everyone is using telehealth and it's back-to-back to back – and we were sharing one meeting room password because IT was so backed up. It took three months for each clinician to get their own meeting code password." P6

"And also the safety on the other end, you cannot stop a child falling, you can't stop – if something happens on the other end who's responsible if you're having a therapy session." P3

Physiotherapists who had more substantial organisational support felt that this was helpful for providing an effective service. One participant worked in a permanent telehealth service and had admin support and suitable space for her appointments. One participant reported that a central service supported their telehealth and had staff on call to help with technological issues, however it was not specific to her population nor provided at the time of implementing telehealth so it was not as useful as it could have been if it were provided at the right time and tailored to her client group.

"I went and looked at the [adult] tele rehab project as part of a half-day thing where we looked at what was happening in tele rehab... and by the time I needed to do the training – it just didn't match up timewise." P5

Lack of Physical Touch

Physiotherapists said certain assessments were impractical via telehealth. Assessments for children with suspected torticollis or suspected abnormalities of muscle tone were given as examples where physical touch was required. Physiotherapists reported that they could not explain what they wanted to the parent and trust the result of an assessment delivered through the parent.

"I think without having your hands on them... without me being able to slightly tip that way, check that reflex, this, that and the other, there's a whole arm of your assessment and your knowledge that I could not talk families through." P1

Physiotherapists reported that initial assessments were very limited and that they could not take measures of muscle strength or joint range without physically touching the child. Assessments were mainly observation based and this was not felt to be as accurate as face-to-face assessments involving physical touch. Physiotherapists reported rarely trying standardised assessment and having little success when they did.

"Your assessment can't be as accurate, I don't think, as if you're able to feel it yourself." P2

Eight of the physiotherapists (P1,2,4,5,6,8,9,10) reported that telehealth was not as accurate or as effective as face-to-face services and that it should not be used as a replacement for face-to-face services, particularly when trying to do an initial assessment.

"You do feel it's better than nothing but it's not as effective as face-to-face." P10

"I use it more for therapy sessions in between, not so much assessment. I'll get them to come for the first one." P6

Communication

Physiotherapists reported that communication with the parent and the child was not as effective over the screen as it was face-to-face. There were two components to this. The first was in a practical sense of not being able to communicate desired manual handling to a parent or desired positions to a child and achieving the same outcome as in a face-to-face service. One participant reported that her sessions were not as effective as face-to-face due to communication barriers.

"There were a lot of kids that didn't get much better because I'm trying to give them instructions like verbally and they often physically have to queue them or give them those sorts of prompts." P8

The second component was the therapeutic relationship with the parent and the child. Physiotherapists reported that it was difficult to make sessions fun and engaging and that there was no modelling of communication and play to the parent that would normally take place in a face-to-face session.

"I think I just found it difficult to make the session fun. I think just generally I find the communication side of things more difficult. I always left those appointments just not sure if Mum really felt like she'd gotten a full service from it." P9

"I think at times you lose the ability to be able to talk to parents as you're demonstrating what you're doing so often, you'll have your child in your hand and you'll be narrating what you're doing as you're doing it, while you're working with the child. So, the whole session becomes not only a therapy session, it's an educational session for the families." P1

Physiotherapists tried using various communication tools during their sessions including dolls, to model what they wanted from the parent. Physiotherapists also reported that their communication improved over the time they delivered telehealth services and that they learned from experience.

Work Environment

Physiotherapists reported changes to their work environment and day to day nature of their work when primarily using telehealth. There were several issues that combined in this theme. Therapists reported that they sometimes conducted sessions at home which removed the professional barriers between themselves and the family. They also reported increased screen time and associated fatigue.

"I found it very tiring to be looking at a screen all day and having that interaction in that way and office setup because we were all working from home. It's not an ideal position, you're not in a good ergonomic position." P2

Therapists reported that when using their work office there was not always a suitable space to conduct a telehealth session. What made the space unsuitable was lack of access to a computer, privacy, and space to move and demonstrate.

"Room with a computer in it that has space to demonstrate things, rather than just an office" P5

"You'd go to the gym, and you'd be on your computer and then they just walk past, open the door and start talking to you because they think you're just there on your computer typing notes." P6

DISCUSSION

Aim 1: Determine What Barriers and Facilitators Physiotherapists Perceive to using Telehealth

Participants in this study identified both facilitators and barriers to using telehealth for service delivery with children with developmental delays. Facilitators are the right family, the right child, adequate technology and space, and collaboration. Barriers are technology, time management, lack of physical touch, lack of organisational support, and work environment. While barriers and facilitators are generally similar to those previously identified by allied health professionals working with children, the issue around the work environment had not previously been identified which may be due to high frequency of telehealth required during periods of time during the Covid-19 pandemic.

Aim 2: Determine Physiotherapists' Willingness to use Telehealth

Participants general feeling was that going forward they were willing to use telehealth for some children with developmental delay in some situations. It was not felt to be as accurate as face-to-face, and physiotherapists did not perceive it to be suitable for initial assessments. Physiotherapists reported that telehealth was a useful tool for collaborating with professionals in other locations, including therapists in rural locations. If it was the "right family," the family received benefits like reduced travel and increased convenience. Feelings around willingness to use telehealth are similar to perspectives identified in previous research on speech pathologists, occupational therapists, and physiotherapists who worked with children living in rural areas who had developmental delays, particularly in respect to telehealth not being a replacement for face-to-face services while having a place in reaching children in rural areas.^{10 22}

Aim 3: Determine Physiotherapists' Perspectives on Training in the use of Telehealth

Participants identified that physiotherapy specific training in telehealth was lacking. Participants also said that while training in technology and platforms was somewhat useful, more organisational support around which platforms to use would have been helpful. Participants also reported learning telehealth on the job and improving with practice. Previous research identified perceptions that training in technology would have been useful but did not identify professional specific training as a facilitator (reference systematic review). Based on the findings of this research, recommendations to aid physiotherapists in using telehealth for children with developmental delay are provided next.

Recommendations

- 1) Prepare the family
Prepare families before a telehealth session by using a mix of mediums that could include emails, videos, and/or phone calls to ensure the family has clear expectations around telehealth services. Families should expect to be present and engaged in the session, and they should understand that the session might be shorter or involve more parent coaching than a typical face-to-face session. They should also know what equipment to have on hand and how to set up their space and cameras.
- 2) Virtual tool kit
Physiotherapists reported that much time was used on collecting resources to use much like a therapist might have a “kit bag” of physical objects to use in a face-to-face session. Therapists should have a list of web resources that they can easily access to keep the child engaged in their therapy session. This virtual tool kit could be provided by their organisation or a supporting body.
- 3) Technology and space
Both the physiotherapist and family should have access to a private space with room to move while still in view of the camera. The therapist should have a stationary camera pointing at a designated area where they know they will be in view. The family should be flexible with camera set up and prepared to use a mobile camera for a moving child.
- 4) Organisational support
Organisations should support their staff by providing clear guidance on which platforms to use and policies around privacy and safety. Organisations should provide suitable technology, good internet connection and readily available technological support. Organisations should provide time for therapists to train and prepare for telehealth and should provide more physiotherapy specific training about telehealth for children with developmental delays.
- 5) Investigate effectiveness and feasibility of hybrid models
There is emerging research in populations with inflammatory bowel disease into the effectiveness of hybrid telehealth models where patients receive an initial face-to-face appointment followed by telehealth.²³ Using telehealth for follow up interventions in a rural setting been suggested in previous qualitative research.¹⁰ A hybrid model of face-to-face initial assessments and reviews interspersed with telehealth was suggested by participants as a possible model to support children for whom proximity of services is a barrier to physiotherapy access. Further research is required into the effectiveness of hybrid models of physiotherapy service delivery for children with developmental delay.

In addition to further research on hybrid models, future research should focus on validity and reliability of physiotherapy outcome measures delivered over telehealth. Research in speech pathologists showed that one of the barriers to using telehealth for assessments was lack of valid outcome measures for children with developmental delays.²⁴ This was echoed by participants in this study. Physiotherapists should be aware of what outcome measures could be used over telehealth and be reasonably confident of a valid and reliable assessment.

Limitations

A limitation of the study was only one moderator conducting focus groups and interviews. This was controlled by the moderator summarising responses and seeking feedback from participants at the end of each discussion. Author 2 listened to the recordings to ensure that focus group questions were consistent, and that the moderator attempted to control bias throughout the discussions. The moderator is a physiotherapist who works with children, and this was an important measure to control potential bias. In addition, recordings, transcriptions, and moderator notes were compared by Author 1 and 2 to ensure that data collection was consistent and trustworthy.

A further limitation is that qualitative research on its own cannot be generalised to a population. To the authors' knowledge, this is the first study of telehealth in the target population and taking a purposive sample across clinical experience, location and telehealth experiences is fitting for this exploratory setting.²⁵

CONCLUSION

This is the first known study to explore physiotherapists' perspectives on using telehealth to deliver service delivery to children with developmental delays. Throughout the focus groups, physiotherapists perspectives on barriers and facilitators emerged as themes from the discussion. These themes were split into facilitators and barriers with facilitators being the right family, the right child, adequate technology and space, and collaboration. Barriers were technology, time management, lack of physical touch, lack of organisational support, and work environment. Physiotherapists' perspectives on willingness to use telehealth were that telehealth is not a suitable replacement for all face-to-face services but follow up services could be provided to the right family and the right child using telehealth, resulting in increased convenience and reduced travel for families. Physiotherapists also thought telehealth was useful for collaborating with other professionals, particularly to improve services to children in rural locations. Physiotherapists perceived a lack of available physiotherapy specific training.

REFERENCES

1. Snodgrass MR, Chung MY, Biller MF, Appel KE, Meadan H, Halle JW. Telepractice in Speech-Language Therapy: The Use of Online Technologies for Parent Training and Coaching. *Communication Disorders Quarterly*. 2017;38(4):242-254. doi.org/10.1177/1525740116680424
2. Bradford NK, Caffery LJ, Smith AC. Telehealth services in rural and remote Australia: a systematic review of models of care and factors influencing success and sustainability. *Rural and Remote Health*. 2016;16(4):3808-3808. [PMID 27744708]
3. Campbell N, McAllister L, Eley D. The influence of motivation in recruitment and retention of rural and remote allied health professionals: a literature review. *Rural and Remote Health*. 2012;12:1900-1900. [PMID 22845190]
4. Cosgrave C, Malatzky C, Gillespie J. Social Determinants of Rural Health Workforce Retention: A Scoping Review. *International Journal of Environmental Research and Public Health*. 2019;16(3):314. doi.org/10.3390/ijerph16030314
5. Grant C, Jones A, Land H. Speech pathologist, occupational therapists and physiotherapists attitudes and perspectives on using telehealth for service delivery to children with developmental delays: a systematic review. *Manuscript in preparation*. 2021.
6. Choo YY, Agarwal P, How CH, Yeleswarapu SP. Developmental delay: identification and management at primary care level. *Singapore Med J*. 2019;60(3):119-123.[PMID 30997518]
7. Australia's Children. Australian Institute of Health and Welfare. 2015. Updated 3 Apr 2020. Accessed 20 Jul 2021. <https://www.aihw.gov.au/reports/children-youth/australias-children/contents/health/the-health-of-australias-children>
8. Hillier S. Intervention for children with developmental coordination disorder: a systematic review. *Internet Journal of Allied Health Sciences and Practice*. 2007;5(3):7.
9. Mulligan H, Wilmshurst E. Physiotherapy Assessment and Treatment for an Ambulant Child with Cerebral Palsy After Botox A to the Lower Limbs: A Case Report. *Pediatric Physical Therapy*. 2006;18(1):39-48. [PMID 16508533]
10. Edirippulige S, Reyno J, Armfield NR, Bambling M, Lloyd O, McNeven E. Availability, spatial accessibility, utilisation and the role of telehealth for multi-disciplinary paediatric cerebral palsy services in Queensland. *Journal of Telemedicine and Telecare*. 2016;22(7):391-396. [PMID 26519377]
11. Camden C, Silva M. Pediatric Telehealth: Opportunities Created by the COVID-19 and Suggestions to Sustain Its Use to Support Families of Children with Disabilities. *Phys Occup Ther Pediatr*. 2021;41(1):1-17. [PMID 33023352]
12. Communications and Media in Australia: How we use the internet. Australian Communication and Media Authority; 2020. Updated 10 May 2021. Accessed 12 Jun 2021. <https://www.acma.gov.au/publications/2021-05/report/communications-and-media-australia-how-we-use-internet>
13. DeJonckheere M, Vaughn LM. Semistructured interviewing in primary care research: a balance of relationship and rigour. *Family Medicine and Community Health*. 2019;7(2):e000057. doi: 10.1136/fmch-2018-000057
14. Gill P, Stewart K, Treasure E, Chadwick B. Methods of data collection in qualitative research: interviews and focus groups. *Br Dent J*. 2008;204(6):291-295. [PMID 18356873]
15. Grant C, Jones A, Land H. Physiotherapists' perspectives on the use of telehealth for service delivery to children with developmental delays: a quantitative cross-sectional survey. *Manuscript in preparation*. 2021.
16. Ames H, Glenton C, Lewin S. Purposive sampling in a qualitative evidence synthesis: a worked example from a synthesis on parental perceptions of vaccination communication. *BMC Medical Research Methodology*. 2019;19(1):26. doi.org/10.1186/s12874-019-0665-4
17. Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quant*. 2018;52(4):1893-1907. [PMID 29937585]
18. Rauf A, Baig L, Jaffery T, Shafi R. Exploring the trustworthiness and reliability of focus groups for obtaining useful feedback for evaluation of academic programs. *Educ Health (Abingdon)*. 2014;27(1):28-33. [PMID 24934940]
19. Nowell LS, Norris JM, White DE, Moules NJ. Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*. 2017;16(1):1609406917733847.
20. Clarke V, Braun V. Successful Qualitative Research: A Practical Guide for Beginners. 2013. SAGE Publications.
21. Nivo 12. Doncaster: QSR International; 2018.
22. Campbell J, Theodoros D, Russell T, Gillespie N, Hartley N. Client, provider and community referrer perceptions of telehealth for the delivery of rural paediatric allied health services. *Australian Journal of Rural Health*. 2019;27(5):419-426. [PMID 31571313]
23. Gray WN, Wagoner ST, Schaefer MR, et al. Transition to Adult IBD Care: A Pilot Multi-Site, Telehealth Hybrid Intervention. *Journal of Pediatric Psychology*. 2021;46(1):1-11. [PMID 33236097]
24. Raatz MK, Ward EC, Marshall J. Telepractice for the Delivery of Pediatric Feeding Services: A Survey of Practice Investigating Clinician Perceptions and Current Service Models in Australia. *Dysphagia*. 2020;35(2):378-388. [PMID 31363846]
25. Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N, Hoagwood K. Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and Policy in Mental Health and Mental Health Services Research*. 2015;42(5):533-544. [PMID 24193818]

APPENDIX 1: INTERVIEW GUIDE

Thank you for agreeing to be part of this interview. Today we'll be talking about your opinions on using telehealth with your paediatric patients. I will be taking notes and the audio is being recorded. This is so we can analyse the data afterward. I'm going to ask about 10 questions but they're not too formal so feel free to jump in whenever you like. This whole process should take about half an hour. You can choose to stop the interview at any point.

For this interview, we're defining telehealth as web-based and real time. For example, using a videoconferencing platform and calling or emailing the parent beforehand with material would be included in the definition. Emailing through a program with pictures or talking through something on the phone in the absence of a related videoconference would not be included in the definition.

We are talking today about your use of telehealth with children and we have assumed from your survey response that you work with children on average at least one day a week.

Do you have any questions?

Are you happy to get started?

1. What are your experiences of using telehealth with this population group?
 2. In considering telehealth, who has received training and what did that entail?
 3. From your experiences, what has facilitated your use of telehealth?
 4. From your experiences, what have been challenges in your telehealth delivery?
 5. Do you have any solutions to these challenges?
 6. What are your feelings around using telehealth in the future?
 7. Knowing what you know now, would you do anything differently in the implementation of telehealth service delivery?
 8. Is there anything we have missed?
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