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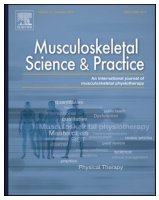

Original article

Qualitative exploration of physical therapists' experiences providing telehealth physical therapy during COVID-19

Neta Roitenberg [a,*], Noa Ben-Ami [b]

[a] Sociology and Anthropology Department, Bar-Ilan University, Ramat-Gan, Israel
[b] Physical-Therapy Department, Ariel University, Ariel, Israel

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ABSTRACT

Background: Physical therapists are trained to provide treatment to patients through a mixture of strategies. The coronavirus (COVID-19) pandemic resulted in social distancing restrictions, and physical therapists, some without previous experience, adopted telehealth physical therapy modalities to treat their patients.
Objectives: The objective of this study was to explore physical therapists' experiences of providing telehealth physical therapy during the COVID-19 pandemic.
Design and Methods: A multisite qualitative semi-structured interview study was conducted. Seventeen physical therapists were interviewed by videoconference or by phone, and the interviews were transcribed and analyzed thematically.
Results: Three main themes emerged from the study. Firstly, physical therapists experienced professional challenges with diagnosing and treating patients hands-off and becoming more verbal. Secondly, telehealth physical therapy was perceived as not feasible or effective for certain patients, attesting to the digital care divide. Lastly, participants' perceptions of patient-therapist communication varied, expressing both communicative advantages and challenges.
Conclusions: Physical therapists who practiced telehealth physical therapy during the COVID-19 period experienced information and communication technology as professionally challenging. Physical therapists adapted positively to the use of telehealth physical therapy but perceived that not every patient could benefit from it. The study emphasized the need for a better understanding of physical therapists' hands-off skills for practicing telehealth physical therapy and considers the need to establish a patient classification for telehealth physical therapy.

1. Introduction

The term "telehealth" refers to the provision of healthcare services (including remote non-clinical services) using information and communication technology (ICT) (Darkins and Cary, 2000). It encompasses the terms "telemedicine," "telerehabilitation," and "teleconsult," and it is inclusive of all health professions (Darkins and Cary, 2000; Tenforde et al., 2017). In the field of physical therapy, there is no agreed-upon taxonomy, and different terms are used interchangeably (Baroni et al., 2023). We use the term "telehealth physical therapy" in this article, as done elsewhere (Cottrell and Russell., 2020; Davies et al., 2022; Miller et al., 2022), to describe the delivery of physical therapy by ICT.

Telehealth services can be delivered synchronously (in real-time) or asynchronously (Cottrell and Russell, 2020). Telehealth services are often celebrated for using technology to overcome access inequalities by remote or isolated populations (Humphreys, 2009) but disparities exist in the adoption of telehealth, for example, by minority groups (Julien et al., 2020) and the elderly (Kalicki et al., 2021). In physical therapy, telehealth services have existed in various forms in the past, usually to increase access for geographically remote populations (Kairy et al., 2009). According to recent research, telehealth physical therapy is cost-effective (Cottrell et al., 2017; Nelson et al., 2021), and studies have shown promising outcomes in the treatment of pulmonary and heart disease (Tsai et al., 2017), arthritis and musculoskeletal conditions (Cottrell et al., 2017), post-operative rehabilitation (Pastora-Bernal et al., 2017), and breast cancer (Galiano-Castillo et al., 2016). Other studies found that telehealth physical therapy improves patients'

* Corresponding author. Bar-Ilan University, Ramat-Gan, 5290002, Israel.
E-mail address: netaroitenberg@gmail.com (N. Roitenberg).

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adherence to treatment and reduces health costs (Bettger et al., 2020; Muñoz-Tomás et al., 2023). These studies have provided evidence of the effectiveness of telehealth physical therapy but suffered from many methodological weaknesses (Turolla et al., 2020). Therefore, more rigorous research is required to determine the long-term effects of telehealth physical therapy (Grona et al., 2018).

Before the COVID-19 pandemic, telehealth has been used only sporadically in the delivery of physiotherapy services (Cottrell and Russell, 2020; Holland, 2017). It lacked a permanent reimbursement framework in many settings (Bezuidenhout et al., 2022; Rausch et al., 2021), and lacked standards for the digital education of physical therapists (WCPT, 2020; Davies et al., 2021). Telehealth education and training vary (Scott Kruse et al., 2018), and are not common in physical therapy training programs (Lee, 2020), but in response to COVID-19 and in the post-pandemic era, there have been telehealth education initiatives for physical therapists (Davies et al., 2022; Heneghan et al., 2021).

Following the outbreak of COVID-19, many healthcare professionals rapidly adopted telehealth physical therapy modalities because of social distancing restrictions and lockdowns (Cottrell and Russell, 2020). Physical therapists began using ICT, many of them for the first time (Bennell et al., 2021). There is still a scarcity of qualitative studies concerning the experiences of physiotherapists using telehealth but the unprecedented COVID-19 crisis provided a research opportunity for filling this gap. Studies that focused on the physical therapists' experiences with telehealth physical therapy during and following the pandemic found that they encountered barriers in communication (Ditwiler et al., 2022) and had to modify their assessment tasks and rely more on verbal cueing in the absence of touch (Davies et al., 2021). Haines et al. (2023) reported that as time passed, therapists experienced an improvement in their capabilities and confidence. Other studies (Bican et al., 2021; Bennell et al., 2021; Malliaras et al., 2021) found inconclusive evidence about the therapists' rating of satisfaction with the administration of telehealth physical therapy and with their acceptance of telehealth as an effective mode of delivery of physical therapy.

There is a need to understand the experiences of physical therapists as an occupational group, in particular, because these health professionals are traditionally trained and accustomed to providing in-person face-to-face treatment. Many of their professional skills are based on the hands-on approach (Hiller et al., 2015), which is used not only to assess patients but also to convey empathy and enhance rapport with them (Geri et al., 2019; Hiller et al., 2015). Understanding the experiences of physical therapists may assist in the development of feasible and efficient telehealth physical therapy services in the future and increase the accessibility of physical therapy services, not only during epidemics.

2. Methods

2.1. Design

The present qualitative study was based on semi-structured interviews with 17 physical therapists who delivered telehealth physical therapy in Israel following the COVID-19 outbreak. In Israel, after the COVID-19 outbreak, public physical therapy services were cut down to the minimum. The HMOs offered minimal sporadic telehealth physical therapy initiatives and physical therapists in the private sector provided telehealth at their discretion (Roitenberg et al., 2022). The purposeful sampling used in this study advocates selecting information-rich and relevant cases (Denzin and Lincoln, 2018; Patton, 2015). To achieve this goal, our inclusion criteria consisted of two characteristics that were similar to those used in similar previous studies (e.g., D'Souza and Rebello, 2021): 1). seniority (of at least a year before the COVID-19 outbreak), and 2). experience in providing telehealth physical therapy following the COVID-19 outbreak (at least five treatments). The authors developed a semi-structured interview guide. The questions, based on previous studies (Lawford et al., 2019; Malliaras et al., 2021), covered introductory matters and topics such as treatments by videoconference or telephone, treatment interaction, perceived challenges of telehealth physical therapy, perceived enablers and advantages, emotions that arise when conducting telehealth physical therapy, and more. (Appendix A). We piloted the interview guide with two interviewees, after which we changed the phrasing of some of the questions to improve clarity.

The first author contacted physical therapists and used a snowballing method to recruit other participants who met the inclusion criteria. The interviews took place in early 2021, using a videoconferencing platform or by phone. The interviews were audio-recorded and transcribed verbatim by a professional service. The interviews ranged between 30 and 75 min (mean of 50 min). All participants gave consent to participate in the study; they were guaranteed anonymity and that all details that might be associated with them would be blurred. The study has been designed and reported based on the Standards for Reporting Qualitative Research guidelines (O'Brien et al., 2014). Ethical approval was provided by the Ethics Review Board of Ariel University, Israel (AU-HEA-NBA20200914#).

3. Participants

To shed light on the experiences of providing telehealth physical therapy, participants were selected to represent the heterogeneous nature of physical therapy services as far as settings, employment practices, age, and seniority are concerned. A total of 28 physical therapists were approached through personal connections; 6 refused to participate in the study and 5 did not meet the inclusion criteria, leaving 17 participants who were interviewed until we achieved saturation (Guest et al., 2006). Participants worked in a variety of settings, including private clinics, community settings targeting mainly orthopedic patients, and child development facilities. Participants were aged 32–61 years (mean 43), with years of clinical experience of 6–33 years (mean 16), (Table 1). Except for two, all the participants worked in different settings. Twelve participants reported having used telehealth physical therapy with patients before COVID-19. Of these, three reported having had basic training that included 5 h of frontal training and simulations of remote consultations over the phone.

Before COVID-19, therapists from various fields used additional ICT means supporting consultation and rehabilitation to preserve the continuity of treatment between appointments, for example, by sending videos of exercises, providing guidance, and providing preliminary counseling to potential private patients. After the first outbreak in Israel, in March 2019, social restrictions were imposed and most participants needed to adapt to telehealth physical therapy independently, using their own resources. But as telehealth physical therapy practices became established, several participants, in the public sector received guidance from superiors (e.g., webinars) in their organizations.

4. Data analysis

Following the qualitative paradigm, data collection and analysis overlapped, and as soon as the first materials were collected, analysis began (Strauss and Corbin, 1998). The authors have research experience in conducting qualitative studies and a background as physical therapists. Reading and analysis of the data followed the thematic analysis coding guidelines by Braun and Clarke (2012). The first two readings of the data were for familiarization with the materials and for identifying ideas and patterns. As we developed initial main codes into themes, subthemes emerged. From the third to the sixth readings, we reviewed, modified, consolidated, and clarified the codes. We discussed discrepancies, revisited the data, and reached a consensus (The emergent themes and subthemes are presented in Fig. 1.) As part of the codification process, we assembled the codes in tables with the supporting quotations (Table 2) and illustrated them with figures (Figs. 1 and 2) to enhance credibility and rigor (Elo et al., 2014; Côté and Turgeon, 2005).

Table 1
Participant characteristics.

Participant no.	Gender	Age (mean = 43)	Seniority (mean = 16)	Education	Main field of practice	Main employment	Pre-COVID telehealth physical therapy experience	Phone or videoconferencing experience
#1	M	32	6	B.P.T.	Orthopedics	Public outpatient clinic	Yes	Mainly phone
#2	M	44	16	B.P.T.	Orthopedics	Private clinic	Yes	Both
#3	F	56	33	B.P,T.	Child development	Public services for children	Yes	Both
#4	F	37	8	B.P.T.	Orthopedics	Private clinic	None	Videoconferencing
#5	F	39	15	B.P.T.	Geriatrics	Public outpatient clinic	None	Both
#6	F	35	12	B.P.T.	Geriatrics	Public outpatient clinic	Yes	Both
#7	F	36	7	B.P.T.	Orthopedics	Private clinic	None	Videoconferencing
#8	F	39	6	B.P.T.	Orthopedics	Public outpatient clinic	None	Videoconferencing
#9	M	46	18	M.P.H.	Orthopedics	Public outpatient clinic	Yes	Both
#10	M	61	34	B.P.T.	Orthopedics	Private clinic	Yes	Mainly phone
#11	M	55	27	B.P.T.	Orthopedics	Private clinic	Yes	Both
#12	F	45	20	M.Sc.P.T.	Orthopedics	Public outpatient clinic	Yes	Both
#13	F	36	14	B.P.T.	Pelvic floor	Private clinic	Yes	Mainly videoconferencing
#14	M	50	24	M.Sc.P.T.	Orthopedics	Public outpatient clinic	Yes	Videoconferencing
#15	F	48	21	M.Sc.P.T.	Child development	Public services for children	Yes	Both
#16	F	42	15	B.P.T.	Child development	Public services for children	Yes	Both
#17	F	32	6	B.P.T.	Geriatrics	Public outpatient clinic	None	Phone

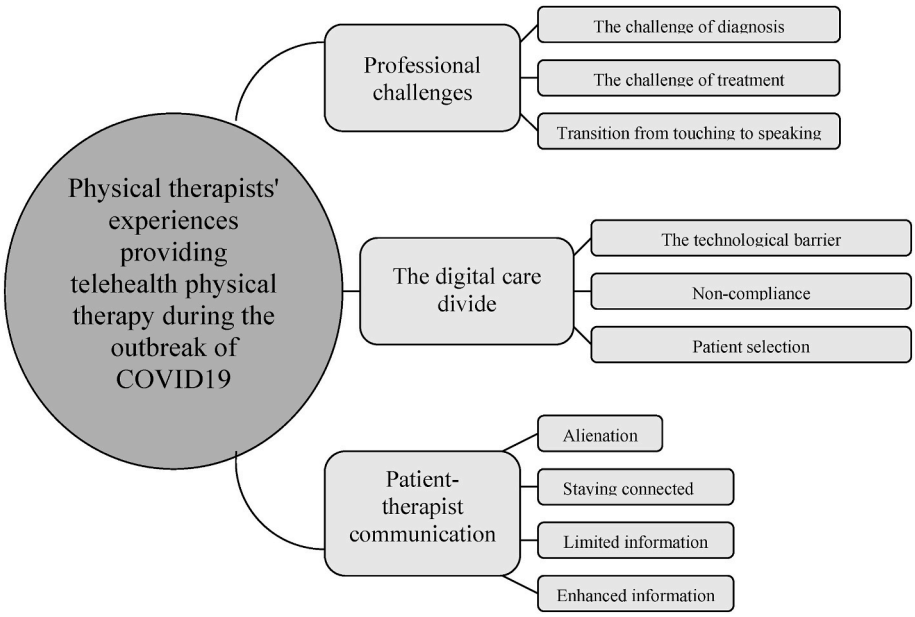

Fig. 1. Themes and subthemes.

We used no coding software. To ensure the trustworthiness of the findings, we followed a reflective approach and conducted open discussions in accordance with the COREQ guidelines for analysis and reporting (Tong et al., 2007). To preserve the interviewees' anonymity, we used numeric labels and slightly changed several personal details.

5. Results

Seventeen recruits participated in the study until we achieved saturation. Data analysis produced three themes: professional challenges, the digital care divide, and patient-therapist communication.

5.1. Theme 1: Professional challenges

Twelve participants spoke about the challenge of providing physical therapy by telehealth physical therapy. These narratives were presented by participants from all settings.

5.1.1. Subtheme: the challenge of diagnosis

The interviewees shared their difficulty in examining patients without being able to touch them:

> It's not the same. Personally, I need to touch the patients, to feel the patient when I conduct an examination (#16).

Table 2
Themes, subthemes, and supporting quotations.

Theme	Subtheme	Supporting quotations
Professional challenges	The diagnostic challenge	Sometimes I had patients [I diagnosed remotely] who I felt that they were not making progress as I would've liked them to, and I don't want to miss anything so I would tell them that I would like them to come and get a more thorough examination (#7).
	The treatment challenge	It's like going out of your comfort zone and providing care while you're limited by the tools that you can use: without touching, without needling (dry needling), without taping (kinesiotape therapy) … nothing … Just instructions and exercises (#2).
	The transition from touching to speaking	At first, I missed touching patients. I wanted to use my hands and make their movement more accurate but in time I felt that I can make their movement more accurate using words. I improved and learned to use images, like, not saying "raise your leg higher" but "climb a stair" (#17).
Digital care divide	The technological barrier	You need your equipment to get it right … but also the patients. It requires digital literacy and a technological understanding, and with older people. Every session, I need to recheck if they have access [to the Internet] or not and we just waste a lot of time on that … it's not so simple for everyone (#7).
	Noncompliance	Some people don't get along with telehealth physical therapy … There are chronic patients who come only for the physical touch. They do their exercises and they are active and do everything right and still have pain, so they come so you will touch them and ease their pain a little (#2).
	Patient selection	I think that if a patient is willing to have a phone session, in my experience, then I can say that they are usually in a better shape and more prone to telehealth that requires more instructions and … in advance they know what it means and that they will get more instructions, more exercises … I think that hard-core patients go to the clinic … those with chronic pain or maybe those after surgery (#1).
Patient-therapist communication	Staying connected	I like it because it allows you to connect with people without geographic restrictions. I mean, I have patients from all over the country … We had group sessions for elderly patients in the US and in all sorts of places and it's amazing! It crosses mountains, it crosses borders, it has an amazing force (#5).
	Alienation	It makes the treatment more mechanical because when you are in front of a person you have all the fine-tuned gestures that don't exist [in telehealth]. In the end, you sit in front of your camera, and she [the patient] sits in front of hers … I don't know, I felt distant (#9).
	Limited information	When they're in front of you, you can see their faces, their eyes, you can tell to what degree she's with you or not with you. On the phone there's silence and you don't know! Is she bored or is she taking in what I just said? It's much harder to analyze without the visual face of the patient (#6).
	Enhanced information	In retrospect, for me, in my interactions with patients, in my ability to ask questions and say certain things, the fact that there's a little distance because of the screen made the conversation more fluent … It works also in the clinic but on Zoom it was easier! (#14)

Because of the difficulty of providing a full examination, many therapists preferred to provide telehealth physical therapy to patients they already knew from the clinic, and were reluctant to take on new patients. Participants expressed their concerns about "missing something", especially in the case of patients with a suspicion of a neurologic deficiency:

> You can conduct a neurologic examination over Zoom or by telephone but it feels less of a full examination … We advised these patients to get an examination at the clinic. It's just a precautionary measure we like to take (#12).

5.1.2. Subtheme: the challenge of treatment

Twelve interviewees described difficulties in providing treatment through videoconference applications and by phone when they first started offering telehealth physical therapy because they were unable to use manual techniques such as Kinesio-taping, dry needling, and more.

> OK, so you can provide the (pain) education part and also the exercises but for many things you need the touch. I felt that I couldn't provide like a third of the treatment I wished (#8).

In the absence of the clinic and the therapy equipment, therapists had difficulty treating their patients as they would have liked:

> In some cases, I felt that I have much more to give and I cannot do it over Zoom, so I tell my patients: "I know we had our reasons to have Zoom sessions but you're going to make much more progress if you come to the clinic (#13).

5.1.3. Subtheme: transition from touching to speaking

The lack of tactile facilitation in treatment forced physical therapists to improve their verbal skills. Eleven interviewees described their effort to adapt to this change and tried to achieve their goals using words instead of their hands:

> At first, I missed touching patients. I wanted to use my hands and make their movement more accurate but in time I felt that I can make their movement more accurate using words. I improved and learned to use images, like, not saying "raise your leg higher" but "climb a stair" (#17).

Interviewees described the change they underwent and emphasized the need for being "accurate:"

> You get used to saying X and Y and what to teach and it makes the work more accurate, many things become more accurate

What do you mean?

More accurate in what you say to the patient … You need to tell them: "Put it exactly at this angle and your hand exactly like that on the hip" and so on (#5).

5.2. Theme 2: The digital care divide

Participants reported that for some patients videoconferencing and phone platforms are not feasible or effective. The subthemes of this theme were: The technological barrier; noncompliance; and patient selection.

5.2.1. Subtheme: the technological barrier

According to the interviewees, some sectors suffered from restricted access to telehealth. For example, patients who have difficulty mastering the technology; patients who do not own the required technology (e.g., some Jewish congregations do not allow their members to use the Internet). Elderly people were frequently mentioned in this regard. These patients have difficulty adjusting the camera, connecting the WiFi and the application, and so on. Interviewee #5, who worked mainly with elderly patients, commented:

For example, they told me "I can't handle the system," or, like, I tried it with this patient and I saw the connection was broken many times and she didn't understand how to position the camera, so I felt she didn't get the treatment. I asked her to have her daughter with her.

Interviewee #7 also commented on her patients:

Every session, I need to recheck if they have access [to the Internet] or not and we just waste a lot of time on that … it's not so simple for everyone.

5.2.2. Subtheme: noncompliance

Other patients who according to the interviewees were not suitable for telehealth physical therapy were those who believed that they would not benefit from it because it lacks the physical touch of the therapist:

There were some people who didn't want to participate in telehealth physical therapy … because, you know, a lot of people think that physical therapy means someone touching you, yes? This is some kind of linkage that many people make (#1).

Several participants cited examples of patients suffering from chronic pain. The participants shared the limitations they faced in providing therapy for these patients and felt that these patients, who were familiar with traditional physical therapy, favored the added benefit of the therapeutic touch:

There are chronic patients who come only for the physical touch. They do their exercises and they are active and do everything right and still have pain, so they come so you will touch them and ease their pain a little (#2).

5.2.3. Subtheme: patient selection

Participants felt that telehealth physical therapy could not provide the best treatment for several conditions (e.g. patients with equilibrium problems, neurologic findings, pelvic-floor conditions, with suspected fear-avoidance or apprehension, and patients after surgery). Participants were reluctant to treat these patients through telehealth physical therapy and, whenever it was possible, transferred them to the clinic (between lockdowns). For patients with fear avoidance, the physical presence of the therapist is important both for diagnosis and treatment:

It is very difficult to notice fear-avoidance [patients] … You can understand that a person is bending because of pain as opposed to a person who is bending because he is afraid, which you see with your own eyes … When you're right next to him, I think you also give some reassurance to the patient (#10).

Participants noted that the patients who were willing to participate in telehealth physical therapy and did not need to be persuaded were more suitable:

It really depends on the person at the other end, but from what I noticed those who are willing to make this kind of engagement are more up to it … They're more willing to take upon themselves this kind of treatment (#4).

5.3. Theme 3: Patient-therapist communication

This theme, which was prominent in the interviews, contained four subthemes: alienation; staying connected; limited information; and enhanced information.

5.3.1. Subtheme: alienation

Telehealth physical therapy elicited emotions of alienation in six participants. They reported that although telehealth physical therapy had many advantages, at times, they felt estranged from their patients and missed the interpersonal connection that is established in the clinic.

It makes the treatment more mechanical because when you are in front of a person you have all the fine-tuned gestures that don't exist [in videoconference]. In the end, you sit in front of your camera, and she [the patient] sits in front of hers … I don't know, I felt distant (#17).

For these participants, communication in telehealth physical therapy was more to the point and the conversation between patient and therapist was more about the matter at hand and less friendly and outgoing than in face-to-face meetings:

It kind of took away all the chitchat that filled the room during the session because it's much more distant … yes, it's more business-like with the patients (#14).

Interviewee #6, who had already provided treatment by phone before the outbreak of COVID-19, missed face-to-face communication with the patients:

I "live" the person … I miss the gestures, the facial expressions. We miss the frontal, the person himself … I like to work in front of the person.

5.3.2. Subtheme: staying connected

Eight participants commented on how telehealth physical therapy provided them with the ability to stay connected with the patients during lockdowns. Participants who worked in private practice as well as those who were employed by various organizations phoned their patients during lockdowns for the sake of "staying in touch."

Interviewee #5 noted she wanted to know how her elderly patients were doing during the lockdown:

Those whom I couldn't visit I would call at the same time of the week just to talk to them, to stay connected … to see that they're not alone … Think about all these 80-90 year-olds, suddenly left with nothing … So I would call and talk to them for a few minutes.

Interviewee #3, a developmental physiotherapist, spoke about the treatment goals during lockdowns:

During lockdowns, when the schools were closed, our mission was to stay in touch, in the therapeutic sense, but also … in a kind of connection with the families. With the kids, but also with the families.

Interviewees working in developmental physical therapy and

providing treatment to children educated in the community shared their surprisingly positive experiences of preserving the continuity of treatment but also of communicating with their patients in their natural environment by videoconferencing:

> For the children from the education system, it was really an improvement to have access and get inside their homes; the ability to make a difference in their homes was very meaningful (#15).

5.3.3. Subtheme: limited information

This subtheme concerns the communication in physical therapy between therapists and patients through the senses, through touch, sight, and the mere physical presence of the physical therapist during treatments.

> I think that communication has many aspects and online communication is much more restricted than what you can offer by being in the room … On Zoom we can give only verbal reassurance … [but in the clinic] you know, to look someone in the eyes and not through a screen, this is meaningful in therapy. [This occurs] even in the preliminary stages when there is no touching, no manual therapy, and no physical examination. Non-verbal communication is not "simple" in Zoom (#11).

Interviewee #6 described the difficulty of understanding the patient over the phone:

> When they're in front of you, you can see their faces, their eyes, and you can tell to what degree she's with you or not with you. On the phone there's silence and you don't know! Is she bored or is she taking in what I just said? It's much harder to analyze without the visible face of the patient.

5.3.4. Subtheme: enhanced information

Paradoxically, in some cases, participants were under the impression that telehealth physical therapy enhanced clear and explicit communication. Interviewee #4 shared how the screen enabled her to connect more directly with patients and finally reach the desired behavioral goals:

> Because in the end there's nowhere to escape to! Maybe that's it! To get to the bottom of things … In the clinic, the patient is expected to lie down and we do mobilizations and so forth, and here you don't have this option! Nowhere to hide. For some patients, the most important thing is to talk about pain and how to manage it, which made it possible to achieve our goals.

Interviewee #1, who had provided telehealth physical therapy by phone before the outbreak of COVID-19, believed that this platform enhanced his neutrality and assisted him in communicating with his patients more straightforwardly:

> I think that in a sense it clears your prejudices ….like, it lets you focus on the problem **itself**. Because sometimes, you know, you get this patient, she's a little overweight or looks sloppy or whatever, and right away you think: "Aaah, she has fibromyalgia" or "She has this" or "He has that." And when you talk to them on the phone, for me it makes me more tabula rasa. My attitude is cleaner. And second, it helps me be more upfront and speak more openly. It's the same with the patients, you know? … they feel less embarrassed to raise things.

This theme can be summed up in a diagram (Fig. 2) where one axis displays interpersonal aspects and the other information. The interpersonal aspects axis stretches from *Alienation to Connection.* The information axis stretches from *Limited information* to *Enhanced information.*

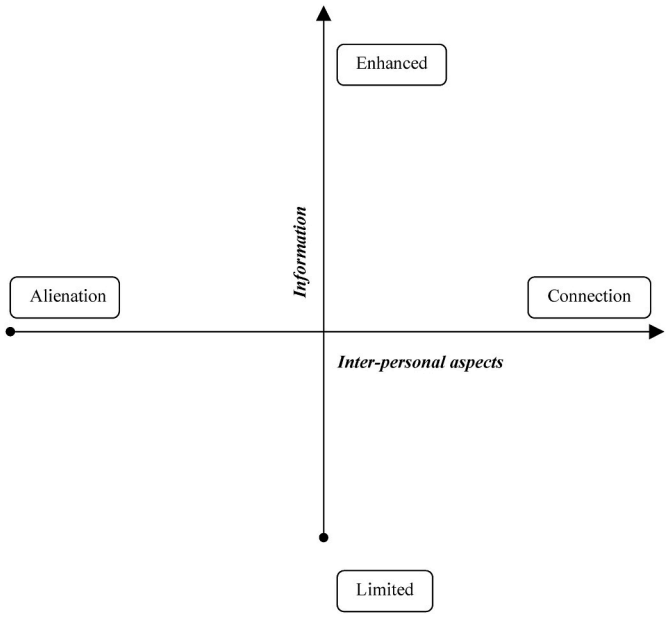

Fig. 2. Theme 3: Patient-therapist communication.

6. Discussion

This qualitative study explored the experiences of physical therapists who provided telehealth physical therapy after the outbreak of COVID-19. The first theme, professional challenges, illustrates how physical therapists who provided telehealth physical therapy experienced the remote therapeutic platforms as professionally challenging, the most important of which was examining patients without physical contact. Several participants felt that the absence of touch impaired their assessments and described their fear of missing signs, specifically neurologic ones, which may have clinical implications. These findings are consistent with those of other studies (Anchors et al., 2023; Hinman et al., 2017; Lawford et al., 2018; Malliaras et al., 2021) reporting that physical therapists had concerns about telehealth physical therapy and believed that in-person face-to-face consultations were preferable for certain conditions. Similarly, in a study by Hinman et al. (2017), the physical therapists shared their sense of comfort about knowing that their patients had already been screened by the research staff for comorbidities and red flags. These subjective experiences were partly verified by objective studies on telehealth physical therapy. The validity and reliability of physical examination by ICT have been examined in the past (Mani et al., 2017; Grona et al., 2018), but the findings are inconclusive. Nevertheless, the overall treatment outcomes are promising and appear to be comparable to conventional face-to-face treatments (Cottrell et al., 2017). Telehealth physical therapy is consistent with recent guidelines and recommendations for the treatment of musculoskeletal pain, which favor activation of the patient, self-management, and less hands-on treatment (Lewis et al., 2021; Lin et al., 2020). The experiences and perceptions of the participants in the present study captured the change that the technology-driven healthcare environment is undergoing and addressed the ongoing debate in the physical therapy community over "hands-on" versus "hands-off" treatment.

Participants reported that they were challenged by not being able to use their everyday professional resources and skills, including manual therapy techniques, dry-needling, electrotherapy, and gym equipment. This situation made them adapt and learn how to achieve their goals using their voice rather than their hands or various other tools. Although physical therapists spend a substantial amount of time talking to patients during face-to-face treatment (Roberts et al., 2013), participants in our study reported that the change in the use of speech between face-to-face and telehealth physical therapy was pronounced. The encouraging finding was that participants described a process of adaptation and improvement of their verbal skills. It is possible that

participants could have benefited from formal professional training, which may have expedited their adjustment, but their experiences illustrate adaptation and self-adjustment to the transformation they needed to accommodate, similarly to the findings of Haines et al. (2023).

Participants discussed their views on the efficacy of telehealth physical therapy for specific conditions and patients (the digital care divide theme). Several participants shared their concerns and beliefs about orthopedic post-operative patients who could not benefit from remote treatment. The evidence in the literature on this topic is ambiguous, some reviews report that the outcomes of telehealth physical therapy after orthopedic surgery were not conclusive (Pastor-a-Bernal et al., 2017), whereas others found similar outcomes and even superior to those of face-to-face treatment (Agostini et al., 2015; Jiang et al., 2018).

According to the interviewees, another group of patients could not benefit from telehealth physical therapy because they had expectations to receive hands-on therapy (*noncompliance* subtheme). De Baets et al. (2021) also reported practitioners experiencing limitation in providing telehealth physical therapy to certain patients. The physical therapy profession is based largely on touching and palpation, and this is how it is perceived by the general public (Rutberg et al., 2013). Tenforde et al., (2020) found that some patients felt that the inability to receive hands-on treatment was a decisive limitation of telehealth physical therapy. Physical therapists themselves felt that they were expected to provide hands-on treatment (Malliaras et al., 2021). Our findings are consistent with sociological role theory (Eagly and Wood, 2012; Guirguis and Chewning, 2005), which suggests that the expectations of role partners' (in this case, the patients) play a key role in shaping the professionals' actions.

Our findings also attest to the importance of adjusting treatments to individual patients, according to their condition but also their digital proficiency. As in previous studies (Bezuidenhout et al., 2022; Marwaa et al., 2020), the technological difficulties of patients were perceived as a barrier to the provision of telehealth physical therapy to some patients. Determining the sustainability of telehealth interaction has been identified as a significant capability (Davies et al., 2021). For this reason, guidelines were developed to identify patients who would benefit most from telehealth physical therapy (WCPT, 2020).

According to the participants, unlike certain populations that were not suitable for telehealth physical therapy, children with chronic disabilities benefited greatly from work over videoconferencing platforms, and for them, the restrictions imposed as a result of the epidemic produced a surprising opportunity. As noted above, physical therapists felt that this treatment platform was highly successful with children with chronic disabilities because it allowed them, in some cases for the first time, to connect with the patients in their natural environment.

The patient-therapist communication theme revealed the variations in the communication of the participants with their patients. Whereas some physical therapists reported that ICT enhanced their communication with their patients, others described reduced communication and a sense of alienation. Previous studies (Cottrell and Russell, 2020; Randall et al., 2016) identified deficient interpersonal relations and rapport with patients as barriers to telehealth physical therapy. Verbal communication between the physical therapist and the patient in telemedicine involves certain linguistic reciprocity as well as non-verbal communication skills that are vital for the digital encounter (Roberts and Osborn-Jenkins, 2021; Turolla et al., 2020). Although some physical therapists reported deficits in information, others found that ICT allowed them to have a more transparent interaction with patients, which enhanced the exchange of information. This contradictory finding is consistent with Hinman et al. (2017), according to which physical therapists found patients more receptive to their recommendations provided in the course of telehealth physical therapy. The variance in physical therapists' experiences regarding communication with the patients calls for further exploration of physical therapists' personalities inclinations, and compatibility. It is possible that physical therapists with more adaptive personalities should be encouraged to conduct telehealth physical therapy, whereas others should receive more support. Both patients and physical therapists perceive communication skills to be crucial for the successful outcomes of treatment (O'Keeffe et al., 2016), therefore future studies should further investigate this topic. Patient education on self-management and the activation of patients are considered the gold standard in many conditions that physical therapists treat (Lin et al., 2020), and contextual factors are acknowledged to be crucial for treatment outcomes (Testa and Rossettini, 2016), therefore better and more accurate communication with patients is a crucial component of treatment.

7. Limitations

The present study has several limitations. First, although the sample included physical therapists from various settings in Israel, it did not include physical therapists from all settings or every type of facility. The study relied on purposeful sampling seeking to capture a wide range of perspectives of the phenomenon, as in similar studies (e.g., Bennell et al., 2021; D'Souza & Rebello, 2021). This method of sampling could be accountable for the differing experiences (e.g., perceptions of patient-therapist communication). But the heterogeneity of the sample indicates that the findings are generalizable (Mason, 2002) to various professional settings in physical therapy. Other limitations concern disadvantages inherent in qualitative research, such as possible bias in the snowball sampling method (Handcock and Gile, 2011), and possible social desirability bias in the responses of the interviewees (Van de Mortel, 2008). Another possible bias may be the result of the phrasing of the questions asked in the semi-structured interview, although the questions were modeled after a previous study (Lawford et al., 2019).

8. Conclusions

Healthcare organizations adapted rapidly to social distancing restrictions following the outbreak of COVID-19, providing physical therapy services by ICT. The findings of this study reveal several implications of the shift to remote services. One is the need to address physical therapists' difficulties in providing treatment by ICT. Cautious estimates predict that telehealth physical therapy services are on the rise (Lord Ferguson, 2022) and it would be advisable for healthcare organizations to consider training physical therapists in providing telehealth physical therapy. Training should also identify the more adaptable physical therapists as well as those who can benefit from closer support.

The findings indicate that health organizations promoting telehealth physical therapy should focus their efforts on two fields. First, it is necessary to further develop the physical therapists' verbal communication skills. Second, it is necessary to refine the model of patient selection for telehealth physical therapy by conducting post-therapy follow-up studies to find out which patients benefited most from telehealth physical therapy.

A statement of ethical approval

Ethical clearance has been gained for this study by the Ariel University Ethics Review Board (AU-HEA-NBA-20200914#).

Declaration of competing interest

The authors declare that they have no competing interest.

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Appendix A. Semi-structured interview guide for physiotherapists

- Thank you for agreeing to be interviewed.
- The purpose of this interview is to explore your experience as a physiotherapist providing telehealth physical therapy during the COVID-19 pandemic.
- Administering the informed consent form: You are reminded that our conversation will be treated in the strictest confidentiality, and you will not be identifiable in the report.
- Please answer my questions in your own words and feel free to share your thoughts.
- Do you have any questions before we start?

Questions.

1. Can you please tell me about your experience as a physiotherapist (how long have you been working in community practice? Have you gained experience working elsewhere, etc.)?
2. Please tell me about a typical workday at the community clinic.
3. Can you please describe your experience as a physiotherapist during the COVID-19 pandemic?
4. Did you provide telehealth physical therapy over the phone/video chat/email?
5. Have you had prior experience providing telehealth physical therapy?
6. Can you describe what was it like to provide telehealth physical therapy during the COVID-19 pandemic?
7. Can you tell me what you think telehealth physical therapy services could provide patients?
8. Do you see any advantages it could have over face-to-face physical therapy?
9. Can you describe a successful telehealth physical therapy treatment?
10. Do you see any disadvantages of telehealth physical therapy for patients?
11. What was challenging for you as a physiotherapist? Did you feel that you can handle this task?
12. Could you describe your emotions while you provided telehealth?
13. Can you describe your communication with patients?
14. Did you have a chance to talk about this subject with your colleagues? What in particular did you discuss?
    - Is there anything else that you wish to share?
    - Thank you very much for participating in this study. You are welcome to contact me with further comments.

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