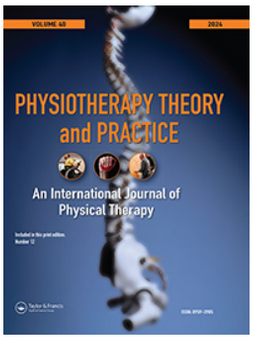

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QUALITATIVE RESEARCH REPORT

Reaching for connection: a qualitative study of communication and interaction in video-based physiotherapy

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ABSTRACT

Objective: Digital technology has become increasingly relevant in physiotherapy, but little is known about communication and interaction in video-based physiotherapy. Therefore, this study aimed to explore the experiences among patients and physiotherapists, of communication and interaction in digital, video-based physiotherapy.

Methods: A qualitative interview study with a phenomenological approach was conducted. Participants were purposively recruited from primary health care clinics. Semi-structured, in-depth interviews were conducted with 10 physiotherapists and 6 patients. Interviews were recorded, transcribed, and analyzed using a phenomenological approach.

Results: The analysis resulted in the overall theme Reaching for connection, which captured the central meaning of the participants' experiences. Four categories emerged from the analysis: 1) Closeness at a distance; 2) Overcoming limited bodily communication; 3) The technology as part of the meeting; and 4) Challenging the physical meeting as a norm. The results suggest that communication and interaction in digital settings differ from physical settings, but there is an ongoing adaptation process to this new paradigm.

Conclusions: The results of this study show that video-based physiotherapy, while having several benefits according to both patients and physiotherapists, affects the communication in several ways. Physiotherapists need to acknowledge these limitations and seek strategies to adapt and to compensate for the reduced non-verbal elements and lack of touch. Attention to the physical room and shifting between positions (face/full figure) are suggested practical strategies, but also to practice awareness and embodied communication to improve receptivity in the interaction.

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E-health; physical therapy; qualitative research; video; digital; communication; therapeutic alliance

Introduction

Globally, around 66% of the population used the Internet during 2022 (Bogdan-Martin, 2023). Corresponding statistics from Sweden show that 95% of the population had access to the Internet in their homes in 2022 (Satistics Sweden, 2022). The World Health Organization (2021) presented a Global Strategy on Digital health with the vision to improve health for everyone, everywhere by accelerating the development and adoption of appropriate, accessible, affordable, scalable and sustainable person-centric digital health. Digital health care including digital physiotherapy has increased extensively in recent years (Brigo et al., 2022; Mann et al., 2020; Rausch et al., 2021) not least in Primary Health Care (Mold et al., 2021) and could be particularly suitable for individuals facing barriers related to mobility, travel costs and time constraints (Liaw et al., 2021). Physiotherapy can be delivered via video meetings with live audio and video, hereby called video-based physiotherapy, both regarding treatment and assessment. Physiotherapy assessment via video has been found in part valid and reliable for several musculoskeletal conditions (Bernhardsson et al., 2023). Video-based physiotherapy treatment, particularly exercise, could be comparable to face-to-face treatment (Hawley-Hague et al., 2023) and could increase adherence to home-exercise (Lang, McLelland, MacDonald, and Hamilton, 2022). Physiotherapists, particularly in the outpatient sector, see potential in the digital transformation but have concerns regarding data protection and personal lack of experience (Estel et al., 2022). Moreover, video meetings can be challenging when it comes to communication, both with regard to technical disturbances and

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problems in understanding non-verbal cues and emotional expressions (Shaw et al., 2020; Venter, 2019).

A person-centered communication, based on both verbal and non-verbal communication could enhance interaction and work as a catalyst for the therapeutic alliance between patient and physiotherapist (O'Keeffe et al., 2016; Pinto et al., 2012; Søndenå, Dalusio-King, and Hebron, 2020; Wijma et al., 2017). In physiotherapy, the therapeutic alliance and interaction between the physiotherapist and the patient are important. The therapeutic alliance in the clinical meeting is shaped by the person seeking care and the physiotherapist and is affected by biological, social and psychological factors (Søndenå, Dalusio-King, and Hebron, 2020). The alliance can improve compliance, and the quality of interaction affects the outcome of the treatment (Babatunde, MacDermid, and MacIntyre, 2017; Ferreira et al., 2013; Klaber Moffett and Richardson, 1997). Connection has been described as an important component of the alliance and in physiotherapy it is established through acknowledgment of the individual, giving-of-self, and also by focusing the patient's body in several ways (Miciak et al., 2019). Connection has been suggested to be defined as a link with another person based on a common ground or acknowledgment (Miciak et al., 2019).

Non-verbal communication is communication that is not based on words, such as eye contact, facial expressions, body language and touch (O'Keeffe et al., 2016; Wijma et al., 2017). Touch is the primary non-verbal form of communication for physiotherapists (Roberts and Bucksey, 2007) and non-verbal communication could predict health outcomes over time (Ambady, Koo, Rosenthal, and Winograd, 2002). To look away or avoid smiling could communicate distancing in a way that would negatively affect treatment outcomes (Ambady, Koo, Rosenthal, and Winograd, 2002). Both physiotherapists and patients have expressed positive experiences of video-based physiotherapy, but the lack of physical touch is a significant limitation (Bennell et al., 2021).

In recent years, the concepts of embodiment and intersubjectivity have gained increasing interest among physiotherapists, to describe and explain important aspects of communication in the physiotherapy meeting. These concepts stem from a phenomenological understanding of the body as simultaneously subjective and biological; experienced, expressive, action and meaning oriented, relating to the surroundings (Gallagher and Payne, 2015). The body-to-body interaction, or intercorporeity (Merleau-Ponty, 1968) refers to an intersubjectivity which involves proprioception and kinesthesia. This embodied interaction between the physiotherapist and the patient concerns a sensibility and responsiveness for which the therapist has primary responsibility, and a joint performance of the task, for example an assessment or movement practice (Øberg, Blanchard, and Obstfelder, 2014). To clarify, the embodied interaction is not something that each part of the dyad accomplishes on its own, but rather a perceptually guided process toward a mutual understanding of the situation. It involves non-verbal communication based on facial expressions, postures, movements, gestures, and sometimes touch. In this "dance," the patient and physiotherapist coordinate their interactions, creating matches and occasionally mismatches as the interaction moves forward (Øberg, Blanchard, and Obstfelder, 2014).

While communication and embodied interaction have been previously described in physiotherapy research, little is yet known about this process in video-based physiotherapy. To guide primary care clinicians, there is an urgent need to increase knowledge about the use of digital technology in physiotherapy practice (Blixt, Solbrække, and Bjorbækmo, 2021). The study aimed to explore patients' and physiotherapists' experiences of communication and interaction in digital, video-based physiotherapy.

Methods

The study was performed as a qualitative interview study with a phenomenological approach. The specific research questions were: 1) How do patients and physiotherapists experience communication in video-based physiotherapy; 2) What happens with the embodied interaction; and 3) How do patients and physiotherapists act, and potentially adjust, to the digital setting?

Phenomenology is concerned with the meaning of human lived experience and how different phenomena present themselves to consciousness (Giorgi, 2012). The ontological viewpoint is that humans are always directed to the lifeworld, related to and engaged in their everyday activities and social context in an immediate and pre-reflective way. The researcher's task is to elucidate the meaning and structure of these everyday experiences, beyond the taken for granted (Giorgi, 2012). For the present study, we chose phenomenology based on our focus on everyday experiences, but also since the digital setting involves new questions about human consciousness and interaction. Based on our phenomenological assumptions of intersubjectivity and human relatedness in person-centered communication (or "care"), we wanted to approach the interaction between patients and physiotherapists as the phenomenon of study and explore patterns and variations in their experiences. Therefore, both patients and

physiotherapists were involved as participants. The study was reported according to the Standards for Reporting Qualitative Research (O'Brien et al., 2014). The data collection was conducted between October 2021 and January 2022. Ethical approval was received by the Swedish Ethical Review Authority (2021–04021) and the study complied with the Declaration of Helsinki (World Medical Association, 2013).

Recruitment

Participants were recruited from primary health care in the west of Sweden. Physiotherapists at nine different primary health care clinics were invited, face to face, by their managers to participate, and after consent, they were asked to recruit one of their patients face to face. The clinics were regular primary healthcare clinics representing a wide range of conditions, both musculoskeletal and psychological. Not all physiotherapists managed to recruit a patient since video-based physiotherapy were rarely used in some clinics. A purposive sampling was used to seek variation with regard to gender, age, geographical and socioeconomic factors and the amount and type of digital visits that the participant had experienced, for both participants and physiotherapists. Prior to the interview, all participants gave their informed, written consent to participate in the study. To gather a sufficiently rich material for the analysis, the objective was to conduct approximately 15–20 interviews (Englander, 2012).

The inclusion criteria were: physiotherapists working in primary health care or patients seeking primary health care physiotherapy regardless of reason, who had experience of at least one video-based physiotherapy meeting; were at least 18 years old; and able to carry out a conversation in Swedish. Participants were to be excluded if they had any prior relationship to the interviewer.

Data Collection

Data were collected through individual semi-structured, in-depth interviews. A physiotherapist (EL) with prior experience in qualitative research performed the interviews, during which only the interviewer and the participant were present. The interviewer presented herself as a physiotherapist interested in the research question. The participants could choose whether they wanted to be interviewed in a physical room or via a video meeting, and they were interviewed on one occasion. Consequently, some of the interviews were conducted in a clinical setting and some interviews were conducted digitally, using Zoom (version 5.7, Zoom Video Communications Inc., San Jose, California, US). All interviews were performed individually, with only the participant and the interviewer present. An interview guide was used (Appendix 1) and consisted of open questions about communication and interaction in video-based physiotherapy (Englander, 2012). The two authors developed the interview guide based on previous literature and clinical experience. The tentative interview guide was tested and reflected on together with a patient and a physiotherapist not taking part in the study, in a pilot interview to improve clarity and relevance from their perspectives. The interviews lasted 50–70 minutes and were audio recorded. The interviews were transcribed verbatim.

Analysis

The interviews were analyzed using a phenomenological approach, inspired by Giorgi (2012). Prior to the analysis, the process started with the authors discussing their views and knowledge on the subject, to hold back quick and taken-for-granted interpretations (Giorgi, 2012). During the whole analysis, a holding back of the researchers' preunderstanding was strived for through discussions and questioning of patterns in the data, to enhance openness and reflexivity (Dahlberg, Dahlberg, and Moodley, 2008; Giorgi, 2012). The interviews were read repeatedly to give a sense of the immediate meaning as a whole material. Meaning units were then sought and themes derived from data, enabling an interpretive analysis searching for the meaning of the studied phenomenon. Close readings and coding of two transcripts were conducted independently by the two authors and then discussed, the remaining interviews were coded by the first author. A structure for the themes was developed to clarify the results (Giorgi, 2012). The analysis was performed by the two authors in collaboration. Member checking was performed as the preliminary results were sent to all participants inviting them to leave comments. One of the participants replied with comments, stating that she recognized the results and found the different experiences interesting. She added a reflection about how the video-based session might in fact enhance the contact in some cases, for example for patients with social phobia. This experience was incorporated into the results. All comments were taken into consideration in the further analysis.

Preunderstanding

Both authors are female with a PhD, and they work as registered physiotherapists, with experience in video-based physiotherapy in primary health care and pain rehabilitation. EL has prior experience in performing qualitative studies with a different methodology and has received

academic training in phenomenology. LD has training and experience in several phenomenological studies.

Results

A total of 10 physiotherapists and 6 patients were asked to participate in the study, all agreed to participate, and were included. The median age was 46.5 years (range 28–65) and 9 of 16 participants were female. All participants used the Internet daily and their experience of digital healthcare ranged from only a single meeting to more than 75 meetings, in general with more experience among the physiotherapists. The physiotherapists had been working for between 1 to 18 years (Table 1).

Main Results – Theme

The analysis resulted in the overall theme of "reaching for connection", which was interpreted as the central meaning of the participants' experiences, running like a common yet more implicit pattern in the data. The theme illuminated the wish and strive among both patients and physiotherapist, to seek the connection they wanted by "extending" themselves through and via the digital meetings. The participants described that the possibility of establishing a personal contact, and connection, was indeed different in digital meetings compared to physical meetings, in both good and bad ways. Some aspects were completely missing, like the possibility to use touch to facilitate connection. In contrast, the sense of connection could improve via video in some situations, for example in patients with social phobia, anxiety, or fatigue. The experiences revealed hope in that limitations could be overcome with more practice and with improved conditions, such as a more detailed use of language. While the "reaching for connection" was an overall theme in the participants' stories, different facets of this meaning are reflected in the four categories: 1) Closeness at a distance; 2) Overcoming limited bodily communication; 3) The technology as part in the meeting; and 4) Challenging the physical meeting as a norm (Table 2).

Table 1. Participant characteristics.

	Age (years)	Gender	Number of experienced digital sessions	Years of experience as physiotherapist
Physiotherapists	25–29	f, f, f	25, 50, 65	3, 4, 5
	35–39	f, f, m	15, 65,	1, 11, 14
	45–59	m, m, m, m	10, 32, 50, 75	10, 13, 13, 18
Patients	35–59	f, f, m	1, 2, missing data	
	60–74	f, f, m	1, 5, 9	

f: female, m: male.

Closeness at a Distance

Contact via video differs from physical meetings and the participants described that there was a feeling that the digital meeting did not feel *"real"*. It takes awareness and commitment to establish genuine and close contact through a computer screen. To be able to see each other increases the feeling of security. In some respects, a digital meeting was described exactly as a physical meeting, but the participants stated that it requires a physical meeting to get to know *"who someone really is"*. The closeness and connection at digital meetings that were following initial physical meetings, were described as more natural than if the digital meeting was a first contact. Verbal communication was described as especially important in video-based physiotherapy since the non-verbal communication was restricted. The digital setting could offer good opportunities to talk in private, where the patient was in a familiar and safe environment (e.g. the home). At the same time communication is dependent on language skills; language barriers and difficulties hearing could be accentuated in a digital setting, which sometimes made personal contact more difficult to establish.

> *It might be a bit more personal when you're here talking, and you're sitting this close to each other, than if it had only been digital because it's a bit more distanced. But I still think that the image you have after a digital meeting is quite similar when you get here.* - Physiotherapist for five years, female, 25–29 years

The participants described that video-based physiotherapy could feel more focused, with the reason for the visit clearly outlined, which sometimes made the communication more efficient. However, information that at first might seem irrelevant, but could be relevant for the full picture, could get lost due to lost visual impressions and the sense of efficiency. The limited view of the video, where often only the face was visible without any additional surroundings, could be a reason for the experienced focus.

The surrounding environment was described as important for how the meeting turned out and the possibility to feel present in the meeting. A safe surrounding, like a home environment, could give access to more open and personal communication. Depending on what is shown in the video there could be a feeling of being invited to the other person's physical place. On the other hand, a digital setting enable meetings in many different settings, in traffic, with people around and in other more distracting environments. The possibility of establishing a connection between the physiotherapist and the patient could be hampered if one of the participants are distracted by their environment.

Table 2. Overview of the analysis and the results.

Overall theme	Categories	Example of codes	Quotes
Reaching for connection	***Closeness at a distance***	Personal contact For real or not Using words To see and be seen Environment	*. . . Because you don't no who the person you meet is, who show up on the screen. But if you are in the clinic you see the physiotherapist approaching you. So that you see that it is a person. Now it's just someone showing up*. - Patient, female, 60–74 years *[There is] a kind of invisible barrier, which makes it a little more awkward and so on. And that's probably why it is a little faster. There won't be any small talk. It won't be so personal, on the same level anyway*. - Physiotherapist for 18 years, Male, 45–59 years
	Overcoming limited bodily communication	Limited body language Communication through the face Working with the camera Loss of eye contact	*"I think it makes a big difference to see the face of the person you're talking to. It's easier to connect when you have a face to associate with the words, so to speak. You can see expressions and you see more. . . It's easier to understand what people mean when you see a face to a voice."* - Patient, female, 35–59 years *. . . it's easier to see for example how the patient is breathing [in the physical meeting]. Or if the patient reacts physically or becomes sad or. . . um. . . starts to fidget a bit. If something is happening with the patient, it is a bit harder to interpret if the meeting is digital. Because I don't hear the patient as well, and I don't see him or her, especially when we work lying down, it's difficult to obtain an angle where I can see the patient well. (. . .) So such small signals become harder to interpret digitally, and it is important to convey to the patient what is important for them to tell me, um. . . whether or not it feels good, or [that you] change position if it's not good . . .* -Physiotherapist for four years, female, 25–29 years
	The technology as part of the meeting	Feeling uncomfortable Important that it works New ways to share information	*[At digital meetings] there has been delays and such, and then you lose the tread and get inpatient*. - Patient, female, 35–59 years *"If the patient doesn't have headphones, for instance, I realize after a while that whenever I speak, their sound sometimes disappears. This leads to us talking over each other a bit, disrupting the communication and making it a bit more awkward."* – Physiotherapist for three years, female, 25–29 years
	Challenging the physical meeting as a norm	Daring to try Stressful for both Working to feeling safe Previous experience	*I'm a quite regular computer user, I do this all the time. For me it was really easy, a simple way to have this meeting*. - Patient, male, 60–74 years *You have practiced physical visits all these years. But this is a new way, at least for me, to meet the patients*. - Physiotherapist, Male 35–39 years.

> *. . . you get a sense of space as well, it becomes more natural for you. You are involved in a different way, it feels more natural and you can almost feel as though you are in the same room as the other person because you can see where they are and the environment they are in.* – Patient, Male, 35–59 years

> *For many, it can be quite difficult to get to the clinic, it could be a very big step. Which means that you might get . . . another form of contact there [in the digital setting]. When the patient is in their home environment and feels safe, maybe you get a different. . . impression of the patient, or that the patient finds it easier to open up*. – Physiotherapist for four years, female, 25–29 years

Overcoming Limited Bodily Communication

The digital meeting was described as limiting parts of the communication as the view is restricted as to what is shown on the screen. It lacks three-dimensionality and could lack the experience of a shared context. For example, senses such as smell, surrounding sounds and the sense of the atmosphere were left out in the digital setting.

> *" . . . when you meet a person in real life, you experience them differently than if you see them on TV, for instance, and have never met them in person. // It's everything from body language to smells and auditory impressions. . ." - Patient, male, 35–59 years*

Body language as shown in posture and gestures could be left out of the picture and not visible, and if the patient was participating in the meeting through their handheld mobile phone, it could restrict body language. Given this, the face becomes more important to communicate feelings and mood. Moving away from the camera, showing more of the body, facilitates the perception of the other person and this is further facilitated by moving in front of the camera. The restrictions limit not only what is perceived of the other but also limit expression through body language and touch, for example not being able to put a hand on the patient's shoulder for comfort. The participants described that they needed to use more words to compensate for the lack of immediate, non-verbal body language.

> *You couldn't see all that much because of the peculiar way she was holding the phone. And reading her facial expressions was very challenging. She held the phone a bit low, so you could see more of her upper body, and she was speaking in a very open and friendly manner. This has an impact on [the communication].*– Physiotherapist for 10 years, Male, 45–59 years

Without the use of touch to guide or correct, physiotherapists and patients both described that communicating about movement and exercise could be difficult. To verbalize movement could be challenging but it could also add to a learning process for the

patients, seeking for ways to articulate embodied knowledge. To show and mimic movement on screen is also helpful for communication about movement. The lack of touch was also described as a reduced possibility to calm and affirm the other.

> *When I was at the rehab clinic, it was of course much easier because they [the physiotherapists] can observe you and act; if you're supposed to raise your hand straight up, and they see "no, but you're not raising it," then they take hold of it, concretely, and show you how to do it. So of course, that is perhaps better. Because then they can see what you are doing wrong or can't do.*– Patient, female, 60–74 years

> *The way you use your hands is also a big part. . . calming, and yes, being touched. It can also calm [the patient] down, and they receive confirmation when you locate the pain, for example, that they know that you are aware where it hurts and so on.* – Physiotherapist for three years, female, 25–29 years

The possibility to get direct eye contact was lost according to the participants. They described that looking into the camera could give an impression of looking directly at the other person. However, looking into the camera makes it difficult to follow what is happening on the screen, concerning for example facial expressions and reactions.

> *"You really try to speak into the camera. // So, there's a bit of a balance there for me as a professional, to not only speak into the camera to address the patient directly, but also to glance at the screen." -Physiotherapist for three years, female, 25–29 years*

The Technology as Part of the Meeting

A properly working technical solution with high-quality sound and images was described as a basis for connection. Technical issues might increase individual uncertainty, cause frustration, and impede trust. If the unfamiliarity of digital meetings made the person nervous, acknowledgment of the computer as present in the meeting could reduce this nervousness and lighten the mood.

> *. . . you welcome this computer into our conversation, so that you"re not afraid of it . . . . . -* Patient, female, 35–59 years

The digital setting facilitates new ways to transfer information and the participants mentioned screen sharing to show prerecorded videos and other digital resources. A written exercise program could quickly be shared and accessed by both parties in the meeting.

> *I'm a little more into digital screen sharing these days. I can share a video with instructions if there is an exercise that I can't really do. "Can you do it like this?" I guess. However, I can also share some PowerPoint slides. These might explain, for instance, how stress manifests itself physically. It might be a little illuminating for the patient to see what I'm describing. And perhaps in a physical visit, I'm actually worse at doing that. Because I haven't printed out everything I would need, it might be simple to demonstrate my meaning to the patient and share the screen at that point.* – Physiotherapist for four years, female, 25–29 years

Being in front of a camera could be associated with a feeling of awkwardness or insecurity. Both the physiotherapists and the patients thought that getting undressed in front of the camera could be unpleasant, and could raise suspicions that the meeting could be filmed. The display of one's own image may cause attention to shift away from the other person and prevent a personal connection. The effort required to remain sufficiently visible on screen throughout various movements also contributes to this increased self-awareness.

Challenging the Physical Meeting as a Norm

A common perception among the participants was that their experience of physical meetings has been lifelong, while the experience of digital meetings is still quite short in comparison. The extent of experience of digital meetings affects the meeting and the possibility to connect. The participants described differences in the approach to the digital setting, between generations. However, irrespective of age, the habit of using technology in general, particularly video meetings, was essential and varied. As experience increases throughout society, the perception of digital meetings evolves and the idea of what is possible will expand, according to the participants.

> *I've been in the business so long that physical visits are the norm, and you can tell that patients also view physical visits as the norm. Of course, some people do request digital [visits], but physical visits are still the norm. -* Physiotherapist for 13 years, Male, 45–59 years

To deal with the novelty and the insecurity of the norm breaking and unfamiliar situation, preparation and planning were described as key, both for patients and physiotherapists but in different ways. Both groups talked about being prepared in terms of checking the technology, but the physiotherapists prepared themselves by thinking through the steps of the meeting and patients prepared by considering what they wanted to say. The universality of the novel setting brings

mutual understanding and acceptance with regard to the technical problems that may occur. This sense of understanding for each other makes it easier to be courageous and open to try new things. Another facilitating factor of trying out new things was the possibility to make a physical appointment if considered needed. If there are low expectations for the meeting due to ignorance of its potential, meeting success may be reinforced by exceeding those expectations.

> *We were both modest and aware of the possibility that these [technology problems] might occur. Yes. I believe it was one of her first digital meetings, so she wasn't very experienced, and you need to show some understanding.* – Patient, female, 60–74 years

Discussion

The results show that the communication and interaction of digital meetings differ from physical meetings but there is a process of adaptation to a new paradigm currently taking place in the Swedish primary health care context. Video-based physiotherapy seems to be appreciated by both patients and physiotherapists, and expectations were sometimes exceeded, but certain aspects of the physical meeting, such as the impact of touch, are irreplaceable.

To reach for connection is the continuous process of connection in video-based physiotherapy. In order to overcome the limited bodily communication in a digital meeting, presence and receptivity require awareness and some novel strategies. To reach a therapeutic relationship in physiotherapy, four foundational conditions have been described by physiotherapists and patients. These conditions are Present, Receptive, Genuine and Committed (Miciak et al., 2018). All of these are mentioned in the results of the present study. When it comes to genuineness it is about being real, being honest and being personally invested (Miciak et al., 2018). The participants involved in the present study described how a digital meeting was less *"for real"* and that it might be challenging to understand someone's true nature without actually meeting them. Given this, developing a therapeutic relationship online might be more difficult. However, considering the other conditions, both being present and being receptive could be both facilitated and obstructed in a digital meeting. When it comes to commitment in the digital setting the physical meeting as a norm still alters the level of commitment in digital meetings for some of the participants of the present study, and attitudes and expectations could matter. Even before the COVID-19 pandemic physiotherapists in general saw significant potential in digitalization within physiotherapy, but not without concerns, like challenges with reimbursement (Estel et al., 2022). It is worth noticing that the study was conducted during the latter part of the COVID-19 pandemic, which might have impacted the results in several ways. The pandemic resulted in declining social participation in general, possibly leading to loneliness and negative consequences for health and wellbeing (United States Public Health Service Office of the Surgeon General, 2023). The World Health Organization tried to establish the concept of physical distancing instead of social distancing, to promote sustained social connections, and the internet was recommended for social connections (World Health Organization, 2020). With this in mind, there might have been an increased focus on connecting to others, both among participants and researchers. At the same time, the pandemic offered an opportunity to reflect on the importance of social connection (United States Public Health Service Office of the Surgeon General, 2023) possibly adding more depth to the interviews.

The participants in our study described trying to adjust their position and camera angle to improve body language and understanding of the other's experiences, here interpreted as a way to enhance embodied interaction (Øberg, Normann, and Gallagher, 2015). This involves a reasoning process in which different sources of experience, expression, and knowledge are integrated through "reflection-in-interaction" between the patient and the physiotherapist. In the coordination between PT and the patient within a specific environment, both participants give and take while using a variety of bodily expressions: gaze; positioning; utterances and intonations; gestures; facial expressions; and hands-on guidance of facilitation. In working together, this kind of "mutual coupling" of their lived bodies aims at sorting out the patient's movement problems and then improving function. The joint attention and actions ideally result in a shared agency and mutual understanding of the rehabilitation process (Melin, Å, Feldthusen, and Danielsson, 2021. We suggest that parts of this embodied interaction seem to occur also in video-based physiotherapy, in particular the facial and vocal cues. Also, the patient's and physiotherapist's collaborative effort in positioning themselves to communicate about movement and body experiences, can be seen as embodied interaction. While embodiment in digital processes have previously been discussed as a detachment between body and mind, recent investigations suggest a more complex bodily extension beyond the physical limits (Buongiorno, 2019). Future physiotherapy research could explore the digital embodied

interaction more in detail, focusing on how to improve presence and receptivity "through" the screen.

Overcoming limited bodily communication in video-based physiotherapy could be challenging considering the lack of touch, which is central to communication in physiotherapy (Roberts and Bucksey, 2007). Besides the therapeutic benefits of touch, it is also considered to enhance the development of a therapeutic alliance (McParlin, Cerritelli, Friston, and Esteves, 2022. To compensate for the lack of touch in video-based physiotherapy, a set of strategies to manage both loss of therapeutic benefits and loss of facilitation of alliance building will be necessary. Word-based strategies and an increased focus on the other person's face were suggested, together with camera angles to allow body language. Video-based physiotherapy calls for a paradigm shift in communication, both clinical communication and in common human interpersonal communication. Roberts and Osborn-Jenkins (2021) suggested a sequence of interactional features for remote healthcare consultations. An equipment check is suggested to ensure that both parts see and hear sufficiently. The present study shows that besides the practical purpose of an equipment check where the presence of technology is recognized, there is also a social dimension of acknowledging the technology where insecurities could be managed, and this could open up for the establishment of more personal contact. However, this study stresses the importance of having good-quality sound and images so that communication is facilitated, as well as an environment that is not distracting or disturbing. To further the development of video-based physiotherapy and with the emergence of new norms for communication, patients need to be made aware of the possibilities in this form (Roberts and Osborn-Jenkins, 2021). Further development of manners and etiquette suitable for digital communication is also required (Simpson et al., 2021). Besides adopting strategies, physiotherapists also need to practice their own body awareness and embodied communication in digital settings to develop a refined set of professional skills. Further research could focus on evaluating the therapeutic effects of the alliance in video-based physiotherapy.

Strengths and Limitations

Since a therapeutic alliance and the interaction occurs between patient and physiotherapist (Søndenå, Dalusio-King, and Hebron, 2020) both patients and physiotherapists were interviewed. The different perspectives among the participants added to the understanding of the phenomenon and has been suggested as a kind of triangulation in similar studies with focus on interaction, such as health care encounters and supervision (Osei-Frimpong and Owusu-Frimpong, 2017; Pack, 2012) However, there are some limitations that need to be addressed. First, a homogeneous group would have made it possible to understand a specific patient or physiotherapist perspective more. Second, the patients in this study were recruited by their treating physiotherapist. This could affect the selection if the physiotherapists choose patients that they knew had a positive experience. The patients were informed about anonymity and that participation in the study would not affect their treatment, but the participants could feel restricted due to loyalty anyway. Third, while the number of patients ($n = 6$) compared to physiotherapists ($n = 10$) might not be crucial for the interpretation of their experiences in a phenomenological study, there is a risk that the smaller number of patients reduces their voice in the results. To minimize this risk, we ensured that all categories were exemplified by quotes from both patients and physiotherapists.

The interviews in the study were performed by a physiotherapist, introducing herself as such. That could have affected the interview for physiotherapist not wanting to express their uncertainty in front of a colleague, and for patients possibly holding back critique against their physiotherapist. At the same time, the fact that the interviewer shared experiences with the participants facilitated the conversation during the interviews. In this study, interviews were performed both digitally and in person. Digital research interviews have been found, just as digital health care, to bring both challenges and opportunities. It has been argued that the limitation of visual cues via video, together with other factors, could have a negative effect on the richness of the data (Thunberg and Arnell, 2022). At the same time, the digital setting could make the participant more relaxed and comfortable disclosing their experience than in a personal meeting with an interviewing stranger (Thunberg and Arnell, 2022). In this study, the variation of settings highlighted a different set of associations and examples derived from the interview setting since the interview in some respects resembled a physiotherapy meeting. Such examples included the different use of body language and the acknowledgment of technical issues. With regard to the richness of data, we found no qualitative difference between the physical interviews and the digital interviews in this study. Regarding saturation, which is sometimes used to justify the sample size in qualitative research, we approached the concept as outlined by Saunders et al. (2018) reflecting on the proper type of saturation for the specific research question and methodology. In this phenomenological study, we found that theoretical saturation was reached when the thematic

patterns became stable across interviews, and we could give numerous examples from the data to illustrate the meaning of theme and categories in a rich and nuanced way (Saunders et al., 2018). To enhance trustworthiness, member checking was used where the study participants were given the opportunity to comment on the preliminary results. Reflexivity throughout the analysis process also strived at enhancing trustworthiness (Shenton, 2004).

Conclusion

The results of this study show that video-based physiotherapy, while having several benefits according to both patients and physiotherapists, affects the communication in several ways. Physiotherapists need to acknowledge these limitations and seek strategies to adapt and to compensate for the reduced non-verbal elements and lack of touch. Attention to the physical room and shifting between positions (face/full figure) are suggested practical strategies, but also to practice awareness and embodied communication to improve receptivity in the interaction.

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Appendix

Appendix 1- Interview Guide

The purpose of the study is to seek new knowledge about experiences and experiences of video-based physiotherapy, especially how communication and interaction is between patient and caregiver. To learn about communication between physiotherapist and patient at this type of care meeting can have an impact on how video-based physiotherapy will be developed in the future to be implemented in the best way. The interviews will be recorded and then printed. The interview will be de-identified in the handling of the interview material and no outsider will have access to the material.

Can you tell us about a video-based physiotherapy meeting you have been part of?
- How did it start?
- What did you do, what happened?
- What was said? What did you agree on?
- In physiotherapy, it is often something about the body that is important in the visit, can you tell us how did it work digitally?

Can you tell us more about how the communication between is worked?
- How was it for you to interpret what the other meant?
- Did you experience any obstacles or difficulties?
- What strategies can you use to deal with obstacles?
- How was the conversation/meeting affected by technology?

What is special about video-based physiotherapy?
- Can you tell us about what you experience differs from physical visits?
- Are there any disadvantages/advantages of video-based physiotherapy?

If you were to give one piece of advice to make video-based physiotherapy work well what would it be?

Do you have anything else you want to tell us that we haven't covered?

Thank you for the interview.

After the tape recorder is turned off: How did you experience this interview?

If anything further comes up, ask for permission to use it and take it back if necessary the recording.

The interviewer reflects on the interview and takes notes after each interview, both regarding the situation in the room and around the development of interview techniques.