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A qualitative study of patients' and providers' experiences with the use of videoconferences by older adults with depression

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Declaration of conflicting interests

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Abstract

The aim of this study was to investigate the experiences of patients and providers regarding the use of videoconferences in older patients with depression. The qualitative study consisted of semi-structured interviews with patients and providers and focus group interviews with providers. Themes were identified through using thematic analysis. Three main themes: 1. Technical Challenges experienced by patients and providers experiences; 2. Videoconferencing as clinical supportive technology; and, 3. Therapeutic relationship across face-to-face and videoconferencing formats. Several subthemes describing patients' and providers' experiences were identified. Taken together, there was a similarity between expectations, opinions, and attitudes in relation to experiences vertically across all main themes, and horizontally between the main themes. An optimistic outlook influenced user expectations, opinions, and attitudes and acted to mitigate a negative sentiment about technical challenges. This increased the adoption of Video Conferencing as a tool for clinical support and enabled the development of a therapeutic relationship using Video Conferencing, especially for provider users. Both patients and providers agreed that videoconferences could not replace all face-to-face conversations and that videoconferences, in most cases, were best suited for shorter follow-up consultations. Expectations, opinions and attitudes, whether negative or positive, seemed to have significant impact on the experiences of patients and especially providers.

Introduction

Depression is one of the most common and persistent mental disorders experienced by older adults (Arnaert et al., 2007; Bridle et al., 2012). The disorder can be effectively treated, but fewer than half of those who are affected receive treatment (Drozd et al., 2016). Some of the barriers to achieving suitable treatment include a lack of convenient access to health services within rural settings (Sam Hubley et al., 2016), limited resources such as trained healthcare providers, social stigma, incorrect diagnoses, and long travel distances to treatment facilities (Barney et al., 2006; Drozd et al., 2016; Titov, 2011). The majority of people who experience mild to moderate depression are treated in the primary health sector, or as an outpatient of mental health service. The adoption of videoconferencing (VC) technology to facilitate the provision of treatment at a physical distance is gaining increasing appeal and availability is becoming more widespread (Stiles-Shields et al., 2014). The advantage of VC is that adoption can readily increase scope, availability and accessibility to mental healthcare services. Furthermore, VC is especially useful for older patients because of the increasing likelihood with their advancing age for an aggregate of health deterioration across range of co-morbidities whereby multiple chronic conditions may occur that limit accessibility to high-quality, specialized care, combined with a greater propensity to live in rural and remote locations (S. Chakrabarti, 2015).

Background

Several studies investigating telepsychiatry have shown that the use of VC result in clinical outcomes similar to those of face-to-face (FTF) treatment (Garcia-Lizana & Munoz-Mayorga, 2010; García-Lizana & Muñoz-Mayorga, 2010; S. Hubley et al., 2016). Patients and providers are generally satisfied with VC consultations, although it has been shown that providers tend to be less satisfied than patients (S. Chakrabarti, 2015; S. Hubley et al., 2016). Research has shown that support for using VC has been specifically noted among geriatric patients (Garcia-Lizana & Munoz-Mayorga, 2010; Wootton et al., 2006). Despite positive outcomes and clinical evidence, it remains unclear why VC and other technology-supported interventions are not more widely adopted as a clinical consultation tool, meanwhile, the characteristics and perceptions of differences between online services and from in-person interactions remains poorly described (Mair et al., 2012; Nicholas et al., 2017; Scott Kruse et al., 2018).

A key element in the implementation and successful adoption of new technology is acceptance by the patients themselves (van den Berg et al., 2012). However, acceptance by clinicians is another important aspect (Barney et al., 2006; Garcia & Adedokun, 2017), especially when taking into account that the providers are often identified in the literature as the initial gatekeepers to implementation when the use of VC is considered (Wootton et al., 2006). Notably, a limitation in understanding sentiment about VC adoption by various stakeholders is associated with study design, as this can be seen to influence the outcomes of studies, with purely descriptive methods tending to report more positive outcomes than studies using qualitative and experimental methods (S. Hubley et al., 2016). Existing qualitative studies about this topic tend to report a less uniform pattern of findings than quantitative studies (S. Hubley et al., 2016). However, it is noteworthy that research focusing on the use of VC in older people with depression indicate that the experiences and satisfaction in older adults with depression seem to express a positive sentiment in general (Arnaert et al., 2007; Choi et al., 2014; Conn et al., 2013; Tang et al., 2001). Scepticism among the service providers is a major factor limiting acceptance; although in some studies, acceptance among this group improves over time (Choi et al., 2014; Conn et al., 2013). Generally, studies report that patients benefit from the use of VC in a number of ways such as improved convenience, privacy, and decreased burden of transportation to appointments (S. Hubley et al., 2016; Kruse et al., 2017). However, service providers report less confidence in adapting their skills and clinical expertise with developing a therapeutic alliance with patients when using VC, with a pervasive belief that VC is inferior to FTF treatment modality (S. Chakrabarti, 2015; S. Hubley et al., 2016; Rees & Stone, 2005; Simpson & Reid, 2014). On the other hand, patients acknowledged potential for change in the therapeutic alliance relationship, but they are notably more optimistic than providers in this regard (S. Hubley et al., 2016; Simpson & Reid, 2014).

It is apparent that insufficient is known about the suitability of VC for older people and that more qualitative and explorative studies are needed to gain a nuanced understanding of the reactions of both users and providers in regard to the adoption of telepsychiatry generally (S. Hubley et al., 2016; Marchell et al., 2017). Such studies must include participation of both patient and provider groups to more clearly ascertain an understanding of the phenomena with particular attention to the levels of satisfaction, effectiveness and suitability of VC consultations (Mair & Whitten, 2000; Whitten & Love, 2005). Additionally, patient and provider perspectives can usefully inform the selection of appropriate types of assessments that are most amenable to VC consultations (S. Hubley et al., 2016). Very few qualitative studies have investigated VC usage among older adults

with depression and, of these, most are characterized by methodological limitations and deficiencies, and they rarely include both patient and provider perspectives (Christensen et al., 2020). It is apparent that significant gaps exist in the literature in relation to the adoption of VC for older people with depression conditions. Therefore the overall aim of this study was to investigate the experiences of patients and providers use of VCs among older people with depression. The specific objectives were to: 1. Compare and contrast patients' and providers' VC adoption experiences; 2. Examine the characteristics and any differences between FTF and VC consultations for this group; and, 3. Identify enablers and limitations in VC usage.

Method

Design

The study was designed as a qualitative study and consisted of semi-structured interviews and focus group interviews.

Procedure

Participants were drawn from conventional treatment clinics for older people with depression in a rural region of Denmark. Usually, these types of conventional treatment clinics include consultations modes such as home visits, telephone consultations and the patient presenting for in-person attendance at the clinic. For our research cohort, this treatment as usual mode was combined with the option of VC for willing participants in the study. VC was applied as an active communication mode between patients and providers and was used as a supplement to routine treatment. Our modification replaced or reduced the quantity of in-person visits to the patients' homes, or as consultations at outpatient clinics. VC enabled an increased contact between patients and providers, and the quantity of VC sessions was planned in close collaboration between the individual patient and the providers. Appointments and treatments using VC were agreed upon in advance, to ensure that expectations were managed consistency for all parties. As is usually the case in FTF treatment plans for older people with depression conditions, the exact treatment period and requirement varied between the patients, and the quantity of VC engagements differed depending on the individual course of treatment. The participants were provided with software and (hardware if needed) installed with the communication system, Cisco Jabber™, to ensure data security on either a computer or an iPad. None of the participants had any previous experience with the use of VC. Help was provided to install the programme and participants were guided with a brief

information session describing how to use the software program. The participants did not receive compensation for participating. Following the arrangement of a mutually agreed appointment time, providers would initiate a video call the patients for an individual VC consultation. The software enabled one direction calling, with only providers able to make a call, and participants limited to receiving the call only.

Context and participants

The study was carried out across two health care teams in public clinics treating older psychiatric outpatients in the Region of Southern Denmark. Usually, more than half of the consultations between patients and providers take place in the patients' own homes. The participants were patients and providers from one of the two available teams. Inclusion criteria were patients who were aged 65+ years and receiving treatment for a unipolar depression, diagnosis DF 32-33.9 according to the ICD criteria. Patients were included consecutively from September 2015 to February 2017.

Patients diagnosed with dementia, DF 00-03, or with bipolar disorders DF 31-31.9, and patients not willing to participate were excluded from the research. Participant patients were informed that they could withdraw and return to a conventional course of treatment at any time, without consequence. Only participants with Internet or mobile device data access could be included. Providers were included if they participated in the intervention and gave their informed consent to participate in interviews. Provider participants included nurses, psychiatrists, and psychologists. Treatment plans were known within the therapeutic clinic context, and embedded within the usual management processes of the teams where the research was conducted beyond this, the participants were guaranteed anonymity within any reports arising from the study, and all data was deidentified.

A total of 80 VC consultations were completed with the study. Thirteen semi-structured interviews with patients were conducted, of which 10 were from Team A and three were from the Team B. Four semi-structured interviews were conducted with four nurses, two from each team, and two focus group interviews with providers, one from each team, were collected. The providers in the two focus group interviews consisted of seven nurses in the Team A and four nurses/one psychologist in Team B. The nurses who participated in the semi-structured interviews also participated in the focus group interviews. The mean age of the patients was 76 years, most were women, and more than half were living alone. The patients included were all retired. The demographic characteristics of the sample can be seen in Table 1.

Insert Table 1

Table 1 Baseline characteristics of patients and providers

Data collection

Data were collected using semi-structured interviews and focus group interviews. The interviews were conducted in Danish and then translated from Danish to English. All authors made sure that none of the essence was lost. A person who speaks both Danish and English with a master degree in English literature reviewed the translation.

A semi-structured guide was developed to align with the aims of this study and encouraged and prompted participants to reveal their own experiences using VCs (Kvale & Brinkmann, 2012; Neergaard et al., 2009). The main themes contained within the interview guide were: Experience, usability and satisfaction. A number of prompt questions/statements were devised within these themes to assist the interviews illuminate the phenomena under instigations thoroughly.

The semi-structured interviews were completed within two weeks following the completion of each treatment plan, and prior to six months after inclusion in the study to ensure consistency, and to ensure that the experiences being explored were fresh in the participants' minds (Sutton & Austin, 2015). The total number of participants interviewed was based on the principle of reaching data saturation (Malterud, 2017; Malterud et al., 2016; Morse et al., 2002). The patients were interviewed in their homes, and the interviews with the providers were conducted at their place of work, at a time of convenience for participants in each case. Mostly the patients were alone while being interviewed; however, in a few cases, and with the consent of the patient, a spouse was present.

Focus group interviews, were conducted at the end of the VC treatment phase of the study (Malterud, 2017; Morgan, 1996). The groups consisted of a combination of providers who had either used or observed the use of VCs so that a variety of perspectives were included (Morgan & Krueger, 1993). The interviews were conducted by a trained moderator who had not been part of the project to ensure that the project manager did not influence participant opinions (Malterud, 2017). All interviews were audio recorded and transcribed verbatim, with the exception of three patients who did not want to be recorded, but agreed to note-taking.

Data analysis

The interviews were thematically analysed (Gildberg et al., 2015). Themes were derived from the data in accordance with qualitative methods. Using the semantic relation “A is a part of B,” the findings were then analysed and subsequently categorized empirically by semantic relations, employing a taxonomic analysis (Spradley, 1980). Finally, the material was recontextualized by testing it against the original text and the outcomes of the first reading (Gildberg et al., 2015). The thematic analysis was undertaken by the first author but continuously discussed and interpreted with the last author.

Ethical considerations

In accordance with Danish law, the Regional Scientific Ethical Committee for Southern Denmark considered that formal approval was not required, because the protocol was not considered by them to be a health science trial (Project-ID: S-20150040). The study was then allowed to be conducted in compliance with the Helsinki Declaration, and in accordance with the Code of Conduct for Danish Researchers (“Code of conduct,” 2014). Prior to agreeing to participate, all participants were informed about the purpose of the study, their right to voluntarily participate and withdraw from the study at any time without consequence or penalty, and that their privacy and preservation of their anonymity would be observed. Informed consent was an inclusion criteria and interviews only proceeded after consent was provided. Providers were invited to participate in the research and to identify suitable patients who, when then invited to participate in the research, with additional information about the study provided by the researcher. The de-identified interviews were stored as separate electronic files following all relevant Advanced Encryption Standard procedures for personal password use and data encryption. Raw data were password protected and accessed only by the first author of the article. In case of exacerbation or concern about a deterioration in the patient's condition, a plan was in place to contact the patient's therapist on the same day to conduct a welfare check or to initiate appropriate psychological support if it was required. No adverse events occurred during the research phase and no intervention of this type was required.

Results

Three main themes were identified: 1) *Patients’ and providers’ experiences of technical challenges*; 2) Use of VC as supportive clinical technology; and 3) FTF versus VC and therapeutic relationship. Several subthemes describing patients’ and providers’ experiences were also identified. These themes are presented in the following sections.

Theme 1: Patients and providers experiences of technical challenges

The first theme, *patients' and providers' experiences of technical challenges*, was characterized by the two subthemes, usability in older adults, and initial scepticism turned into positive experiences (Fig. 1). The experiences of patients and providers with regard to technical challenges as a theme was mainly characterized by informants reporting their experience of transmission interruptions and disruptions. 'Drop out' variants of internet connectivity with informants being temporarily unable to see each other, or experiencing audio delays, arose as common difficulties during some VC consultations. This led to both patient and provider frustration and internalised feelings of incompetence with the technology. Both providers and patients wished for specialised technical support (additional to themselves) as a back-up, especially during start-up phases. The distraction of technical disruptions impacted the confidence of participants to trust the interaction to some extent, but, appeared to play a less important role for patients' experiences than in those of the providers.

Experiences and focus on technical challenges varied in intensity among providers. Some providers felt that the interruptions and the technical uncertainty caused disruption in therapeutic conversations and consumed time and undesirable focus detracting from the therapeutic interaction. They expressed concerns that technical disruptions (whatever the cause) detracted in the usability of VC. This was a limitation of concern to both patients and providers and that these types of technical challenges compromised the integrity of the therapeutic contact with the patient. One nurse expressed it this way:

Major technical problems have meant that many times we have not gotten through to the patient. It is unsafe, for (recognizing) how the patient (must) feel? The technical (apparatus) just needs to be in order and it has not been so.

However, these challenges were less prominent for other providers and seemed to depend on the expectations of the individual providers, but also on the attitudes within the individual team. One team expressed a positive sentiment and expectation overall, highlighting that their managers were supportive and interested in their successful use of VC consultation as an alternative therapeutic strategy. The other team expressed a negative sentiment suggestion that the use of VC was a economic strategy devised to increase worker productivity and reduce costs rather than on genuinely improving patient convenience and health outcomes. Across both groups it appears that

the strength of positive attitudes and opinions about using VC counteracted the negative experiences about technical challenges. Although there were challenges, the patients in general expressed that the technical challenges were “*little things*”. One way calling capability benefited the institution but was a limitation that detracted from a person-first philosophy for mental health care provision in the Danish context. The patients suggested that they considered it was a drawback that they could not make a VC call to the providers themselves.

Figure 1 Patients and providers experiences of technical challenges and associated subthemes

Insert Figure 1

Usability in older adults

As shown in Figure 1 usability in older adults was identified as a subtheme. Unlike the patients view of themselves, some providers projected a belief that their patients would be uncertain and resistant to developing the requisite technical skills for successful in the use of VC among the patients. Lack of experience in the use of technology by older patients was specifically pointed out by the providers as a potential limitation. However, from the patient data it was evident that technical challenges did not play a greater role among inexperienced patients, than among patients who were experienced in using a computer.

Among the providers there were divergent attitudes, expectations, and perceptions regarding the use of VC in older patients. Some had negative expectations because they conceived their patients to be a non-technically accustomed group of patients. As a consequence, they were sceptical and considered that patients would refuse to participate due to the technical challenges that the providers imagined the patients would encounter. In contrast, other providers highlighted that the ease of contact with the patients was particularly convenient to them, and pointed out that our own scepticism determines who we ask to take part and I think it's our own prejudices and our own insecurity ... it's like we make the decision without leaving it to the patients (to determine for themselves). In these cases, the providers had more positive expectations.

Initial scepticism evolves into positive experiences

Differing expectations among providers characterized the findings in regard to the selection for use of VC among older patients; however, natural curiosity and a willingness to learn new skills and embrace change characterized the views of participating patients. The included patients often had

positive expectations and experiences about using VC . Negative expectations, especially among patients, changed to positive experiences and increased in acceptability as participants gained more experience, familiarity and competence with the technological interaction and technology. One patient expressed the transformation this way:

I did not say yes the first time we talked. I was skeptical... but then I got to try it sometimes. What made me say yes, I *don't* know, but, I definitely think it works.

In contrast, the development of a positive attitude towards VC after using the system over time was not seen among providers with negative expectations persisting. Patients often expressed the personal agency to “go on courage”, with a preparedness to try the new idea with an open mind, however a patient commented that it was pity when *someone said “no” to participation in advance* indicating that perhaps not everyone has the capacity or willingness to attempt something new and unfamiliar. Overall, most patients agreed they would choose VC again and would recommend it to others. This was in contrast to providers who maintained sceptical because they had a fixed and firmly held view that VC was less suitable to older patients because they were not accustomed to technology.

Theme 2: Use of VC as clinical supportive technology

The use of VC as clinical supportive technology was the second main theme and was associated with the following subthemes: Increased patient security, availability, and responsibility and the visually supported clinical assessment (Fig. 2). Technical challenges in the form of disruptions seemed to diminish the clinical focus of the conversation when VC was used as clinically supportive tool, especially by providers with dominant negative expectations. Additionally, these technical aspects affected providers’ motivation for future adoption of VCs as clinical support. The possibility of more frequent easy-to-access communication was an advantage valued by both patients and providers when the technique worked with fluidity. However, there were a number of differences between patients and providers regarding what they considered to be advantages. Patients experienced an increased sense of self-determination, availability, and responsibility. Some providers expressed a view that VC enhanced their clinical assessment because they could view in real-time the patients’ facial expressions, while others suggested that they missed the opportunity to physically touch the patient and observe the environmental surroundings in which the clinical support was provided. Most patients and providers agreed that VC was best suited as supportive

technology to enhance clinical outcomes, especially for brief follow-up monitoring calls. Some providers considered that cognitive behavioural therapy (CBT) via VC was a practical application of the technique if the quality of the experience could be further improved. Additionally, more intensive and longer courses of treatment were more likely to have been completed by providers with positive expectations while fewer and shorter episodes of care were delivered by providers with negative expectations.

Figure 2 Use of VC as a clinically supportive technology and associated sub themes

Insert Figure 2

Increases patient security, availability, and responsibility

Patients appreciated, that they did not need to leave their homes and that use of VC could reduce the inconvenience of arranging transport to hospitals. However, it was not the most important aspect because the patients were often visited by the providers, especially the nurses, in their own homes. The possibility of frequent and “easy access” contact seemed to be the most important strength of VC for the patients. Having the opportunity for more frequent contact means increased security, and the possibility of close follow-up gave patients peace of mind and generally aided the treatment of their condition. One nurse mentioned that:

I could not have followed the patient so closely without the use of VC. It greatly allows for patient involvement and responsibility when one has frequent contact.

In other cases, the ability to use VCs has been crucial for treatment; a patient mentioned that at the time you are so tired that you do not even think about getting dressed; you do not want to go out or visit. So, it's nice to be contacted that way. This patient expressed that a visit from the providers when she was in a bad mood was a burden, while other patients had the opposite opinion because they benefited from face to face visits in their homes, especially when they felt unwell.

The visually supported clinical assessment

Short, frequent, and more accessible consultations via VC between providers and patients had a number of benefits for the patients (see Fig. 2). However, some patients and some providers also mentioned that more frequent contact could help prevent or shorten hospitalizations because earlier detection of symptoms was made possible by seeing the patients. In addition, VC gave an increased

opportunity for clinical support as a replacement for FTF contact, if and when the patients did not show up for their appointments.

Some providers experienced that there was a more rapid progression in the treatment because of more frequent contact, and being able to see the patient more often had, for example, made it possible to follow up on new issues and in some cases enabled better management and administration of medicines. A nurse mentioned that use of VC was very good for medication management because it gave the opportunity to follow the patient closely. I could not have followed up so well without the use of VC. For some patients, drug withdrawal had been tried before but only succeeded when VC were used due to more frequent contact and a better opportunity to evaluate the patient clinically when the patient could be seen.

Theme 3: FTF versus VC and therapeutic relationship

This main theme was associated with two subthemes, depends on the patients and providers involved and complexity and aim of the conversation, as illustrated in Figure 3. The meaningful development of a therapeutic relationship was the primary focus among the providers. Expectations had a decisive influence on provider experiences and therapeutic relationship via VCs, as provider with negative expectations experienced more restrictions. However, most patients and providers expressed the need to create FTF contact before VC contact in order to create a relationship and to get to know each other better. Additionally, most patients and most providers agreed that VC contact was best suited for shorter follow-up calls.

VC created peace of mind and a sense of security for the patients, but the nurses also emphasized that visiting the patients at home created a holistic impression. Some providers missed seeing the whole patient and being able to touch the patient, and they experienced that conversations via VC attenuated the non-verbal communication and limited the use of VC as a clinically relevant option. Some patients suggested that they felt less of a sense of 'being ill' when using VC as opposed to FTF contact. They expressed the idea that they felt more equal and engaged in the co-planning of the treatment with the provider. This manifest in that they were able to relax and felt more empowered to express themselves better from within practical comfort and easy familiarity of their own home.

Figure 3 Therapeutic relationship and associated subthemes

Insert Figure 3

Depends on patients and providers involved

In general, both providers and patients agreed that VC could not replace all FTF contacts because the nature of the relationship changed between treatment modalities. However, a few patients considered that VC could replace all consultations with the providers because they considered that the relationship experience for them was no different from FTF contact. The majority of patients preferred to combine FTF and VC, especially because they wished to maintain close FTF contact with the nurses. However, some patients did not highlight the same need for FTF contact with psychiatrists and psychologists, especially when the courses of treatment included contact with the nurses too. Some patients felt that it was so cosy when the nurse visited; there was an intensity and relationship involved in FTF conversations that participants did not experience in the VC context. Other patients expressed a different expectation of contact with the nurses. One patient explained that:

It can't replace the fact that we meet once in a while, but something else is that it is not necessary for me to know which flowers are on her window sill, at all. It's probably a personal conversation, but not yet. It's something purely professional when talking together. It's the professionalism I'm looking for.

In these cases, the professionalism was more important than the relational benefits and security provided by FTF contact.

In general, patients and providers agreed that the relationship created via VC made it necessary to combine VC with FTF contacts, but also that the relationship was improved when it was possible to see the patient rather than only having telephone contact. A nurse mentioned that you can see many small facial expressions and body positions, things that you can sit and consider even if you are not in the same room, and a patient experienced, that it is different when sitting with the visual image in front of you. Well, I like to know if the doctor responds and is interested in what I'm saying and if I feel that they are interested in hearing what I'm saying. The relational benefits compared to telephone contact were mutual for patients and providers.

Complexity and aim of the conversation

The purpose of the conversation and the degree of depression seemed to have a significant influence on whether an optimal relationship could be created via VC and thus using VC as clinically supportive technology. The conversation was more concentrated and guided than was a telephone conversation. Some patients mentioned VC was a strength because, you go more directly to the problem and the conversation is more concentrated because there are not things that divide your attention. Most patients and providers experienced that it was more difficult to delve deeply into complex issues. In particular, providers experienced problems attempting to provide natural breaks in the conversation and that a relationship was difficult to maintain via VC when complex issues had to be discussed with the patients. However, there were different opinions as to whether prolonged courses of treatment could be conducted via VC. The results indicated that the relationship via VC could be better achieved for patients with mild to moderate depression than in patients who were chronically ill and had complex problems. Patients with mild depression indicated that their experience of the relationship via VC was similar in nature to FTF contact. These patients were more often positive about the prospect of treatment delivered exclusively via VC.

Especially complex issues and courses of therapy administered by a psychologist were considered to be less suitable for VC according to most patients and providers. A patient stated that use of VC did not work for me, and it was not video as such that was the reason. It was that we were not in the same room. The relationship is not quite good enough, and it is difficult to go in depth in the conversation. The patient had no problems with the technique and was positively attuned to the use of VC but had a complex psychological problem that required a long course of treatment. For some providers, it was difficult to assure natural breaks in the VC when emotionally difficult areas were discussed, and it was experienced as a relational restriction which limited the use of VC as clinical support.

The results indicated that there was a difference in the applicability of VC depending on whether the reason for the contact was a single episode of depression or for long durations of chronic episodes. Patients with single episodes experienced a lesser degree of relational differences between VC and FTF consultations and there was no difference in what was discussed in the two forms of consultation. The screen may take over most of it, but both patients and providers agreed that use of VC was not a good approach during the acute stages but better during the stable stages of the

disorder. In the acute and early stages of depression disorders, the relationship obtained through FTF contact led to greater patient confidence and facilitated better clinical assessment by the providers.

Taken together, the main themes were associated as illustrated in Figure 4. Patients' and providers' experiences of technical challenges were closely related to the use of VC as a clinical support and to forming a therapeutic relationship. Additionally, a therapeutic relationship was a prerequisite for using VC as a clinical support. A similarity was noted between expectations, opinions, and attitudes in relation to experiences across and between all the main themes as shown in the middle section of Figure 4. The presence of a positive sentiment appeared to reduce the focus on technical challenges and increased the acceptability of VC usage as clinical support further enhancing the development and sustainability of a therapeutic relationship via VC, especially for the providers.

Figure 4 Similarity and sentiment across and between the main themes

Insert Figure 4

Discussion

In this study, we found that technical challenges played a significant role in the internal relationship between the main themes. Additionally, experiences in the use of VC and the internal relationship between the main themes seemed to depend on sentiment, expectations, opinions, and attitudes, especially those of the providers. Studies have identified a number of benefits and challenges in association with adopting telepsychiatry (Subho Chakrabarti, 2015; Christensen et al., 2020; Scott Kruse et al., 2018), and technical challenges were a prominent theme in several studies (Christensen et al., 2020; Scott Kruse et al., 2018). Although patients and providers agreed that there were technical challenges, there was a difference between patients' and providers' feedback in this study. Technical challenges were especially highlighted by providers with negative sentiment and expectations, while most patients suggested these challenges were little things. Other studies have emphasized that age-related barriers exist because older patients are unfamiliar with the technology involved and lack training (García-Lizana & Muñoz-Mayorga, 2010). In addition, more positive sentiment and expectations have been found in older patients with technical experience (Stiles-Shields et al., 2014). Technical challenges did not, however, play a more significant role for patients in this study who were inexperienced with technology. Some explanations for these differences

include patients who were sceptical in advance and who were sufficiently flexible to adapt to turn their scepticism into positive sentiment and experiences when they used VC. Natural curiosity and courageous self-efficacy characterized patients, with most of the patients preferring to use VC again in the future. Additionally, patients seemed to benefit in a number of ways, such as, increased accessibility, confidence, self-security, and responsibility. These experiences and benefits may explain why they considered technical challenges as a less significant (little things) issue than the providers suggested.

Existing research indicates that more studies are needed before VC can replace FTF conversations for ongoing therapy and psychotherapy. (S. Chakrabarti, 2015; Garcia-Lizana & Munoz-Mayorga, 2010; García-Lizana & Muñoz-Mayorga, 2010). Most patients and providers in this study agreed that VC could not replace all FTF conversations because the relationship was not the same, and the clinical assessment was less adequate. The conversations via VC were more concentrated than telephone conversations, suggesting that VC is well suited for clarifying specific issues and for shorter follow-up sessions. However, several intensive courses have been completed by patients and providers with positive results. In this study some providers raised the possibility of conducting CBT via VC. Other studies have shown that VC can be used for psychotherapy (S. Chakrabarti, 2015; Garcia-Lizana & Munoz-Mayorga, 2010), and especially suitable for conducting CBT. The reason for this may be that CBT is usually brief, highly structured, and less dependent on therapeutic relationships (S. Chakrabarti, 2015). This resonates with the feedback from participants in this study because they concurred that VC was generally best suited for structured conversations and for clarifying specific issues.

The experiences in this study were closely linked to sentiment, expectation, opinions, and attitudes. Even though patients and providers generally agreed that VC could not replace all FTF contacts, patients considered that VC was capable of providing the professionalism they were looking for and that VC was able to replace FTF conversations in many instances. These patients had other expectations for the conversation that were not limited to being in the same room. Most of the patients emphasized the importance of home visits by the nurses, although they could not explain why they felt this way, other than a comfort that arises from the sense of warm and cosiness of a FTF interaction. It is notable that warm and cosy interactions between people who are sharing company together are especially valued in Danish culture (hygge) and this cultural consideration

may also play a part in explaining a preference for FTF engagement. Even so, it appears that participants in this study prioritised the therapeutic interaction over the comfort of a cultural interaction. Organizational changes cannot be implemented without taking into account the culture in which they take place, because cultural change can be the primary reason for resistance to change (Schein, 1994). So, the explanation could be that rituals and roles change through use of VC, and older patients expect that nurses should be involved in creating relationships. However, these cultural changes can also place an additional burden on the nurses themselves, and this may explain the resistance to change by some of the providers.

The contrast that others have found is strikingly similar in our study where patients view telemedicine favourably based on the benefits they encounter, while providers sentiment is marked by concerns and reservations about usability and implementation, often based on their own reluctance to adapt practice to accommodate for technological change (Whitten & Love, 2005). In keeping with previous research, we found that providers were in general more sceptical than the patients (S. Chakrabarti, 2015; Mair et al., 2012; Whitten & Love, 2005; Whitten & Mackert, 2005). However, the results in this study were characterized by an interesting and significant difference between the teams. In Team B, negative sentiment, expectations and scepticism were associated with negative experiences in VC usage, while positive sentiment and expectations were indicative of more positive feed-back from providers in the Team A. In the Team B, the advanced age of the patients was a limitation, as well as the suspicion that introducing VC was a mechanism to increase workforce and economic efficiency, with less regard for patient welfare and health outcomes. Age was not highlighted as a restriction in the other Team A, and the providers saw a number of opportunities for using VC and stressed the importance of administrative management support and interest. The difference between teams can be explained by initial scepticism and resistance to change (Scott Kruse et al., 2018), but also because managers should be encouraged keep the providers' needs, training and support in mind, in regard to fostering their therapeutic agency, when implementing change in regard to telemedicine systems (Whitten & Mackert, 2005).

Limitations

All but two of the interviews were audio recorded and transcribed verbatim. Notes were taken in real time during the non-audio recorded interviews, were reread, and additionally annotated immediately following the interview while the interaction was still fresh in the interviewers mind.

This action was taken to ensure that as much information as possible was collected so that it could be adequately included in the data set. Data analysis was conducted by the first author in the first instance and data was shared with the research team to validate the analysis. It was considered that the two techniques for data recording did not adversely impact the results and that they could be incorporated fairly within the data set. While we acknowledge that the use of two different recording techniques may have compromised the quality of data collected, we consider that the steps we have taken to cross validate can assure confidence that the integration of both are sufficiently trustworthy.

The study provided detailed knowledge about experiences with use of VC in a homogeneous patient group and among providers. As a result, it was possible to identify optimal conditions for application of VC strategies, and this enabled us to identify suitable opportunities and limitations for the future use of VC among older adults. Existing research in this area is sparse (Foster et al., 2015), and new knowledge will help to identify factors that impede implementation. Globally, healthcare systems incorporating VC consultations are situated in geographically and culturally diverse contexts (Shore et al., 2006). This study was limited to a specific Danish context, and in only one of the five national Danish health regions. In other studies, patients often used VC to mitigate the long travel distances to treatment clinics (Garcia-Lizana & Munoz-Mayorga, 2010), and while the travel distances are not geographically large, they can still be onerous for some older people, and relative to the Danish social and economic context. For example, car ownership rates in Denmark are relatively low in a regional context, with a preference for public transport and bicycle transport where possible, which has implications for access to services with advancing age. There may be other reasons determining why people might prefer to select VC treatment options in Denmark as well, including a political and societal interest as early adoption of innovation generally. Overall, these factors may limit the transferability of the result to other contexts, however the research procedure has been rigorous and the results are likely to be of interest to similar health jurisdictions.

Conclusion

The findings of this study revealed aspects of agreement and divergence of perspectives between the two groups of participants. Both patients and providers agreed that they experienced challenges in using the VC technology. Views diverged between the groups, with patients reporting beneficial aspects such as an increase in their self-efficacy and self-confidence, an enhanced sense of personal

agency and responsibility, as well as increased availability to participate in clinical appointments because travel arrangements were no longer necessary. In general, patients had a positive sentiment towards the use of VC technology and were willing to learn the practical skills to overcome the challenges because they preferred the convenience and self-determination that they experienced within VC consultation formats. The providers views differed from the patients where they considered that the scope of clinical support they could offer, and the quality of the therapeutic relationship were both reduced. They were more concerned about the technical disruptions than were the patients, and exhibited more negative sentiment, and less willingness to adapt to VC use than their patients reported.

For both patients and providers, their prior held opinions, expectations and attitudes (whether positive or negative), influenced their experience of VC use and their aptitude to engage positively with implementing VC technology in routine care for older people with depression. Based on the findings of this research it is recommended that implementation of VC use as a clinical tool for the delivery of treatment should be supported by digital technicians. This will ensure minimal disruption to therapeutic communication, and act to enhance confidence and self-efficacy for both patients and providers. Further, professional development for clinicians engaged in VC routine practice should include strategies to address establishing and maintaining high quality safe therapeutic communication skills using video telecommunications platforms, and to dispel myths about the capacity and willingness of older people to engage in VC based strategies to enhance their personal experiences as recipients of health care delivery.

Relevance for clinical practice

This study suggests that a blended care model of incorporating both FTF and VC is preferred by patients and providers. VCs are not likely to replace all FTF needs for consultation with patients; however, the VC is particularly suitable for brief monitoring and short intervals of consultation. To achieve successful VC implementation for clinical advantage requires practical attention to preparation prior to the procedure: 1. Prerequisite therapeutic communication skills adapted for the digital video platform environment. 2. The availability of adequate technical support at commencement and throughout connection as needed. 3. Establish a willingness and positive sentiment about expectation to succeed within the VC environment for both the provider and the patient.

The number of services that are enabled with VC capability has not changed in Denmark across the gerontopsychiatric teams since 2017. However, in contrast the quantity of VC offered among all other psychiatric teams for clinical targets other than gerontopsychiatric patients is approximately five times greater during the COVID-19. The rapid expansion of VC offering to all other psychiatric groups in Denmark is in contrast to stagnant offering to older people is notable particularly as a VC offering could contribute to the protection of vulnerable older people who are at significantly higher risk to acquiring COVID-19 compared younger populations with fewer co-morbidities. The adoption of VC for older people with depression is one way that transmission of COVID-19 might be reduced for this vulnerable population who require treatment for depression, and which might be exacerbated by the loneliness associated with isolation and social distancing required for extended periods due to the pandemic.

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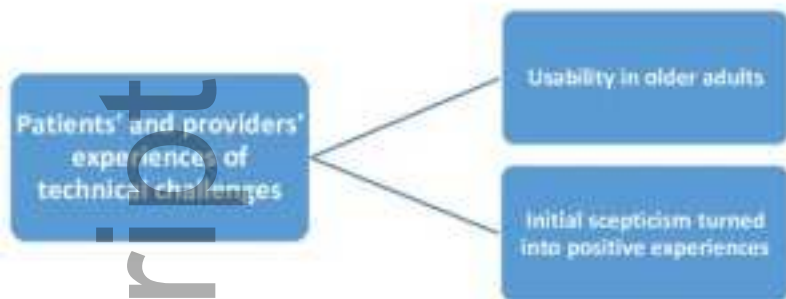
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Table 1 Baseline characteristics of patients and providers

	Patients (n = 13)	Providers (n = 12)
Mean age (years)	76	
Women	8	12
Men	5	0
Mean number of sessions	6	7

Figure 1 *Patients and providers experiences of technical challenges and associated subthemes*



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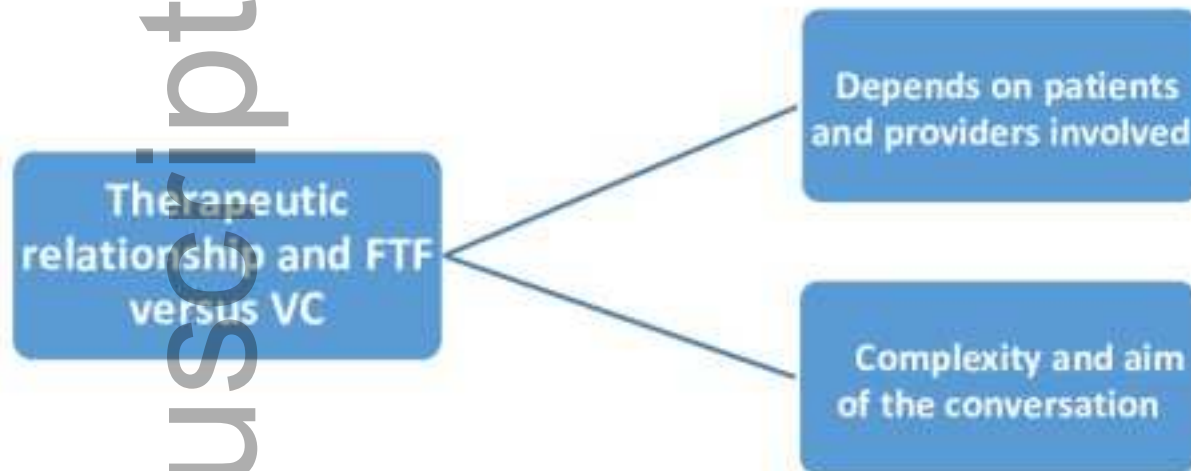
Figure 2 *Use of VCs as clinically supportive technology and associated sub themes*



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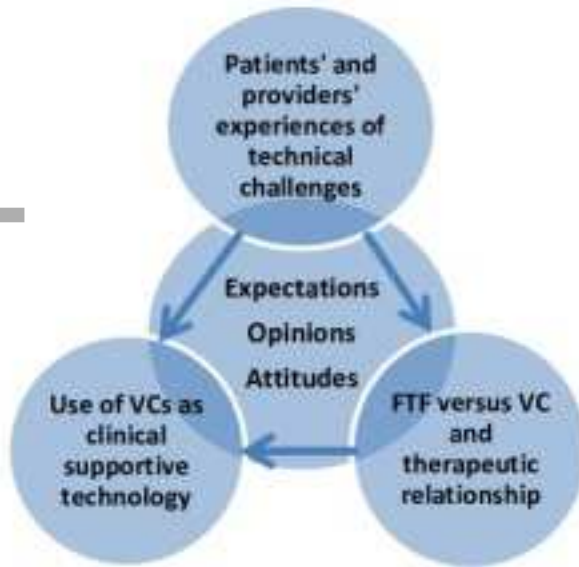
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Figure 3 *Therapeutic relationship and associated subthemes*



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Figure 4 *Similarity and sentiment across and between the main themes*



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