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Publication Date

2024-02-01

DOI

10.1016/j.cct.2023.107425

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Peer reviewed

**Viewpoint: Challenges and strategies for engaging participants in videoconferencing
appointments**

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Word Count: 1500

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Abstract

There are unique challenges that arise from participating in remote clinical trials. Broadly, findings suggest that participants enrolled in digital intervention trials are more likely to disengage or prematurely dropout than participants in face-to-face trials. Thus, optimizing contact with participants via video-conferencing platforms to build rapport and encourage commitment to the study is critical. Still, challenges with video-conferencing visits can pose challenges. Some of these challenges include a lack of clarity about study requirements, difficulties demonstrating staff engagement and building rapport, and the technical challenges of using video-conferencing software. These challenges can affect participant retention, study validity, and the willingness of underserved groups to participate in research. In the context of a remote randomized clinical trial evaluating a digital intervention for prenatal insomnia, we discuss strategies used to counteract these challenges, including the use of virtual orientation sessions, and practical recommendations to improve staff engagement with participants. These findings are relevant to research teams conducting remote clinical trials, especially those seeking to recruit and retain participants from populations currently and historically underrepresented in research.

Keywords: perinatal, retention, engagement, randomized control trial, digital health

Introduction

The use of videoconferencing in clinical research has increased in response to continued interest in digital mental health interventions, the shift to remote work during the COVID-19 pandemic, and new funding opportunities for remote trials [1]. Like other remote research designs, videoconferencing expands geographical access for participants and reduces practical barriers to participation (e.g., transportation). However, videoconferencing has benefits beyond those of other remote trial designs, like those reliant on data collection via phone or digital survey. Videoconferencing provides researchers with a wider range of clinical assessments (e.g., structured interviews) and access to behavioral observations, like noticing physical restlessness, that can further clinical precision in trials that utilize psychiatric diagnoses as outcomes [2]. Videoconferencing also gives participants the opportunity to meet research staff and build trust with the team collecting their data.

Still, using videoconferencing as the principal medium to interact with participants comes with challenges. Reduced rapport with participants, Zoom fatigue, and technical literacy can all impact participation and attrition. Below, we discuss the challenges and corresponding strategies we have used while conducting study appointments via videoconferencing software in a remote clinical trial evaluating the efficacy of digital cognitive behavioral therapy for insomnia for the prevention of postpartum depression. The lessons we learned may be useful for investigators conducting remote longitudinal studies.

Preparing Participants for Appointments

Challenge

Participation in remote clinical trials may be appealing for a wide range of individuals, particularly those who experience barriers to in-person care due to geographic isolation, mobility

problems, or busy schedules. However, high rates of attrition and deficits in participant ethnic/racial and geographic diversity call the generalizability of these remote trials into question [3]. Investing time to discuss study participation and potential concerns *before enrollment* is critical for engagement and retention. This is especially important for populations underrepresented in clinical trials (e.g., pregnant people, racially minoritized people), who may be understandably suspicious of research institutions given historical abuses and exclusion from clinical trials.

Strategies

Prior to enrolling in our randomized clinical trial (RCT), potential participants are invited to sign up for a 30-min online orientation appointment. These orientation appointments (held 1:1 or in a group) provide an overview of study procedures and the expectations for participants. The use of orientations in longitudinal clinical trials has been shown to increase retention [4]. Participants are encouraged by study staff to share what interested them in the trial and ask questions. Specific study populations may have different concerns, which the orientation appointment gives an opportunity to address. For example, in our trial, where participation spans through pregnancy and the postpartum period, participants are likely to weigh any risks to their fetuses when making decisions about participating [5]. We utilize a PowerPoint presentation to introduce potential participants to study team members, review each component of participation and detail anticipated risks and benefits without the pressure of formalizing study consent. If a participant decides to enroll after the orientation session, they will be invited to attend another appointment to review and sign the study consent form. The orientation appointment also serves as a behavioral run-in. If a participant is unable or unwilling to attend a brief session to learn

about study participation, they may be less inclined to complete study procedures after enrollment.

Preparing participants for study procedures does not end at orientation. Before study appointments, participants are informed of how long the appointment will take and encouraged to keep their camera on during the appointment, join from a private location due to the sensitive nature of some of the questions, and to avoid driving during the appointment due to the requirement that they complete study documents during the appointment (e.g., electronic consent form). In our case, providing the details of an upcoming visit ahead of time allows for pregnant people or new parents who may be breastfeeding, taking care of children, or running errands to make time in their schedule to attend to the appointment with reduced distractions.

Demonstrating Staff Engagement

Challenge

In videoconferencing appointments, participants have a more limited field of view than in in-person appointments. Staff often manage multiple tasks during study appointments, including engaging with the participant via video and entering participant responses into an electronic data capture system. To the unknowing participant, staff may appear distracted or as if they are attending to tasks unrelated to the appointment. This may be off-putting to participants or suggest that they can also disengage or multi-task.

Strategies

Before the appointment, staff take care to reduce environmental distractions by silencing notifications and conducting the appointment in a quiet and private location. When beginning the appointment, the staff tells the participant, “I have a few different screens open, and I’ll be moving between a few different forms during this interview. If I seem distracted or if I pause, it

is because I am making a note or switching to the next form.” During the appointment, staff look directly at the camera when possible. Staff inform participants when they need a moment to move to the next form or take notes, so the participant doesn’t interpret silence as disengagement, distraction, or an internet connectivity problem.

Building Rapport

Challenge

Participants may feel a lower obligation to attend videoconferencing appointments if staff feel like anonymous, unknown individuals behind a computer screen. This has been shown in educational settings, where online courses without rapport building (e.g. personalized communication with students) have significantly higher attrition than courses with rapport building [6]. Therefore, staff should be intentional about utilizing strategies to build rapport with participants.

Strategies

Staff allot extra time for relationship development at the beginning of appointments, particularly those that require collection of sensitive health information. When meeting participants for the first time, staff provide a brief overview of their role in the trial and their personal interests in the study topic. Staff begin appointments by checking in, with the goal of making participants feel seen as people and not just participants. Staff invite questions by saying, “Do you have any questions about me before we get started? Is there anything you think I should know right off the bat?” Staff also set expectations by summarizing the appointment agenda. Prior to follow-up appointments, staff review the notes from the past appointments to refresh their memory of any important personal details (e.g. profession, names of close family members, etc.).

It can be a challenging to strike a balance between collecting data while being conversational, authentic, and warm. Staff find it helpful to use verbal inflection to avoid monotone, use sounds to encourage conversation (e.g., mm hmm, yes, etc.), and exaggerating non-verbal behaviors, such as leaning in closer to the camera, head-nodding, and displaying appropriate emotions. Staff use active listening by paraphrasing the participant's responses, using language like, "I want to make sure I got everything – you said x, y, z – is that right?"

Staff inform participants before transitioning to sensitive topics (e.g. "Next, I am going to ask you questions about..."). Staff acknowledge when participants have shared sensitive information and give participants their undivided attention during these moments by pausing notetaking and looking into the camera.

Practical and Technical Challenges

Challenge

When using videoconferencing software, staff and participants can encounter technical challenges. For participants, inadequate technology and low familiarity with the videoconferencing software may prevent participants from being able to attend an appointment. Internet connectivity issues are a common challenge for staff and participants at videoconferencing appointments. Staff prioritize rapidly troubleshooting these technical issues with participants.

Strategies

Staff join videoconferencing appointments 5 –10 min early to troubleshoot technical challenges before the participant arrives, such as updating the videoconferencing software and ensuring the camera, speaker, and microphone are working correctly. Staff are prepared to provide clear, simple instructions to participants who are less familiar with videoconferencing

software. Participants who do not have sufficient technology (e.g. daily access to the internet) are excluded from the trial.

When internet connectivity issues occur, staff invite attendees to turn off video or offer a phone call instead. Staff collect participants' phone numbers at the start of the appointment in case the connection is disrupted. To ensure participant privacy, staff enable a virtual waiting room to allow identity verification before admission. When the participant's username does not match their name, staff confirm their identity before proceeding with the appointment.

Zoom Fatigue

Challenge

“Zoom fatigue,” often defined as exhaustion and discomfort following repeated videoconferencing appointments [7], is prevalent in remote clinical research. Potential consequences include burnout and anxiety associated with attending videoconference appointments. Similarly, staff experiencing Zoom fatigue may appear disengaged, leading to poorer data quality and compromising rapport.

Strategies

Staff schedule breaks between appointments to allow time to complete documentation and to step away from their screen and move around [8]. When appointments involve sensitive or distressing topics, staff schedule check-ins with other team members to debrief afterwards.

When participants appear fatigued or distracted during videoconferencing appointments, staff find it helpful to approach this kindly and directly. For example, if someone is visibly scrolling on their phone or multi-tasking, staff say, “How are you doing? I know this is a long appointment. Would you like to take a brief break and then resume? Or would it be better to find another time to finish the visit?”

Conclusion

Despite providing greater accessibility, remote trials typically engender higher attrition [3]. Videoconferencing give staff the opportunity to meet face-to-face with research participants and should be structured to maximize engagement and ultimately retention. Optimal engagement requires attention to participant experience throughout the duration of the trial and also during enrollment. The strategies discussed in this paper can be applied to remote trials and used to train research staff. As remote research increases, it is important to continue developing best practices for engaging participants virtually.

Acknowledgements

This work was supported by the National Institutes of Mental Health grant R01MH126040, awarded to Jennifer Felder.

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