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Technology-Based Mental Health Treatment and the Impact on the Therapeutic Alliance

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Abstract

Purpose of Review Telemental health, which is treatment mediated by technology, is an increasingly common method of delivering mental health care. However, its impact on the therapeutic alliance is unclear. This review examines studies of telemental health and its impact on therapeutic alliance.

Recent Findings Findings indicate that a therapeutic alliance can be maintained through a variety of communication technologies, with some caveats. Considerations on maintaining a successful therapeutic alliance include using technology as an adjunct to treatment and ensuring patients and providers have back-up plans for continuing communication in the event of technical difficulties.

Summary Overall, the studies found that clinicians often have more concerns about alliance than patients do, suggesting that clinicians could make some changes to feel more comfortable. Recommendations are offered for implementing techniques into practice that will help clinicians increase their awareness of ways to support the therapeutic alliance when using telemental health.

Keywords Telemental health · Telepsychiatry · Technology-based mental health · Therapeutic alliance

Introduction

The use of technology-based interventions, including synchronous video conferencing, interactive computer programs or apps, text messaging, e-mails, and self-guided computer programs, collectively known as "telemental health," has become an increasingly common part of mental health practice. Studies have shown that these kinds of technology-based mental health interventions are beneficial across multiple diagnoses and therapeutic modalities, with outcomes often comparable to face-to-face (FTF) meetings [1].

Despite findings supporting the efficacy of technology-based care, practitioners are often hesitant to use telemental health, in part because of concerns that the use of technology may negatively influence the therapeutic alliance [2••]. The therapeutic alliance is defined as the working relationship between the mental health clinician and patient and includes shared goals for treatment, the presence of warmth, authenticity, genuine concern, and a collaborative bond [3]. A strong therapeutic alliance is routinely cited as one of the primary factors affecting patient outcomes and is therefore considered to be a critical component of any mental health treatment [4]. Studies have demonstrated that a strong therapeutic relationship can positively influence patient outcomes, including decreases in symptoms, and improved medication adherence, treatment compliance, and patient satisfaction [5, 6].

Given the importance of the therapeutic alliance to the treatment relationship, when telemental health was first introduced, there were concerns that the therapeutic alliance could not be maintained through technology-mediated communications, such as video conferencing or e-mail. However, these initial concerns about alliance in telemental health were raised when the idea of communicating with others via computer was uncommon and there was very little research about how people

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maintained any type of relationship via information and communication technologies [7]. As technology has improved, real-time communications with high levels of social presence cues have made digital communication more attractive, useful to, and ubiquitous among the general population. These methods of communication are now routine and commonplace ways to maintain and even strengthen relationships [8]. Despite increasing evidence that people can and do maintain relationships through a variety of communication technologies [9], the ability to maintain the unique aspects of the therapeutic alliance remotely remains a concern of many practitioners [10]. While concerns about possible disruptions to the therapeutic alliance have routinely been cited as one of the larger deterrents from clinicians using telemental health, there is very little research on the factors influencing the therapeutic alliance when telemental health is the method of treatment delivery [11].

In compiling this summary of therapeutic alliance and telemental health interventions, several challenges arise. First, differing types of technology-based treatments are lumped into one, overarching category. However, the patient and clinician experiences differ depending upon the social presence cues and levels of interaction by both patient and provider. Synchronous video conferencing likely has different relationship impact than a text message or a self-guided computer program, but these differences are often not well differentiated in the literature. (A point of note: herein, we will largely examine synchronous telemental health, defined as the simultaneous engagement in behavioral health work between a patient and clinician. Asynchronous engagement, in contrast, encapsulates email, HIPAA-secure chat systems available to patients, and other digital methods of communication and sharing information that are not occurring simultaneously.)

Second, the most recent literature in this area are primarily reviews of older research as opposed to new original research articles. These reviews do not fully capture improvements in technology, advances in communication methods, or the widespread use and societal acceptance of technology-based communications. Because technology advances so quickly, many of technologies used in the original studies have been replaced by improved versions, making it challenging for research to keep up with the rapidly changing nature of technology-based treatments.

Despite these challenges, the literature offers some foundation to examine patterns related to the relationship between the therapeutic alliance and telemental health. This review begins to reveal trends and questions about the role of the therapeutic alliance in telemental health treatments.

Literature Review

We conducted a literature search to identify recent studies focused on therapeutic alliance and the use of technology in mental health care. Search terms included "therapeutic relationship," "therapeutic alliance," "working alliance," "telemental health," "telemedicine," "telepsychiatry," "telehealth," "telebehavioral health," and "technology based mental health interventions." These studies include all forms of computer-mediated mental health treatments including self-guided programs, electronic communications as adjunctive therapies to treatment, and synchronous video conferencing. Overall, the results suggest that therapeutic alliance can be maintained via telemental health, but that there are additional considerations for clinicians and patients when using this type of treatment method.

Recent Studies

In a 2018 study, Richards et al. conducted focus groups with patients and therapists who had been using an online Acceptance and Commitment Therapy (ACT) program as an adjunct to traditional face-to-face (FTF) treatment [2••]. The researchers found that both patients and therapists felt that treatment alliance was improved by using technology in addition to traditional treatment. The patients discussed themes related to alliance being built through the additional time to think and process between sessions and the ability to go much deeper into issues, stating they had "breadth and space beyond the traditional client hour." However, when there were problems with the technology, patients felt that the alliance was strained. As a whole, the patients reported higher levels of both alliance and satisfaction than did the therapists. Although patients did not mention this issue, the therapists reported their own personal levels of comfort with technology influenced how they felt about forming an online alliance. Both the patients and the therapists indicated that patient preference and suitability were important factors when considering this type of treatment.

Farabee et al. conducted a 2016 study of 104 parolees randomized between meeting with their psychiatrist via web-based video conferencing and in-person sessions (treatment as usual) over 6 months [12•]. Participants were assessed at baseline and at follow-up to assess psychological functioning, therapeutic alliance, and medication adherence using a variety of clinical measures including the Brief Symptom Rating Scale (BSRS-5), the Working Alliance Inventory (WAI), and the Morisky Medication Adherence Scale (MMAS). Parolees randomized to the telemental health group reported lower ratings of therapeutic alliance. The data revealed that their perception of the therapeutic alliance declined over the 6 months of treatment. The discussion indicated that it is possible that technical difficulties encountered with the telemental health group may have impacted their perceptions of the therapeutic alliance.

Lopez conducted focus groups with therapists and patients who had access to an online Dialectical Behavior Therapy

(DBT) program in addition to their traditional treatment [13]. Patients reported increased levels of alliance, stating that they felt like their therapist was more accessible than with traditional treatment settings. The patients reported accessing the website at times when therapists were not typically available, such as the middle of the night. They shared that when accessing the skills program, they felt more committed to the work they were doing. Similar to findings in the Richards et al. study [2••], the therapists indicated that their level of comfort with technology was a primary factor in whether or not they used the program to work with their patient. Therapists who did use the program felt as though the use of the computer program strengthened the alliance by being able to provide treatment and support to patients between FTF sessions. In addition, the therapists reported that having this ability to direct patients to this resource eased the pressure and intensity of feeling like they needed to provide additional FTF support [13].

In 2011, Ertelt et al. conducted a mixed-methods study in which 128 patients with eating disorders were randomly assigned to either an in-person manualized treatment or the same treatment offered in an online, self-guided program with therapist support [14]. At the end of the treatment period, both groups had symptom improvement with no difference between the two groups in outcomes. There was no difference in the patient therapeutic alliance ratings between the two groups. However, the therapists rated the alliance significantly lower with patients in the online group than those in the in-person group. In a qualitative follow-up, the therapists indicated a preference for in-person treatment and felt that the process, not just content, was important to the treatment.

Systematic Reviews

As noted previously, much of the current literature is based on systematic reviews of older research. The following section provides an overview of these reviews to identify patterns about therapeutic alliance and technology-based care.

In a 2018 systematic review conducted by Banbury et al., the authors reviewed 17 articles focused on therapeutic alliance of online treatment interventions including both asynchronous interactions, such as chat boards or e-mail, as well as synchronous encounters, such as virtual environments [15•]. Across those studies with synchronous interactions, alliance increased when participants could see and hear each other. However, patients reported problems knowing when to talk, had difficulty reading social cues of other participants, and found they were more likely to interrupt one another. Despite these challenges, many reported they were able to replicate the alliance processes found in FTF treatment, including feeling bonded to the therapist or others in the group, caring about others, and feeling a sense of cohesion with the group. Among the studies with asynchronous methods, interactions that were facilitated by a therapist yielded better alliance than those that were self-directed or participant led (i.e., patient chat boards). Similar to other studies, technology-related problems often interfered with satisfaction and alliance. Those patients and therapists who received training on the technology reported higher levels of satisfaction with the experience, as well as higher levels of alliance, than those who did not receive any training.

Parish et al. conducted a review of 33 articles which evaluated the concept of therapeutic alliance and technology, including synchronous methods such as video conferencing as well as asynchronous tools such as patient portals for communication [16]. They found that the literature around asynchronous options is mixed, at best, as it relates to patient-provider therapeutic rapport building. They also found that synchronous tools like video conferencing had varying levels of social cues, such as eye contact and body language, but they were unable to tease out the influence of these social cues on patient outcomes or satisfaction. They also found that technical difficulties appear to impact the therapeutic relationship, but suggested that more information is needed to better understand the associate between these two factors.

Simpson and Reid conducted a 2014 systematic review of 23 studies, all of which compared telemental health sessions with FTF sessions [17]. Overall, patients rated online alliance similar to FTF alliance. However, therapists rated the alliance in the technology-based interactions lower than in the FTF sessions. Similarly, a 2011 systematic review by Steel et al. of 35 studies found that patients rated the alliance similar in online and FTF sessions, but that therapists rated the online alliance lower for the online treatments [18]. While not directly related to alliance, Steel and associates found that patient satisfaction was higher for those receiving a technology-based intervention than those who participated in the in-person sessions.

Discussion

Despite the increasing use of synchronous video as a delivery method for treatment, studies of the therapeutic alliance in the context of telemental health are far fewer than overall outcome studies and comprise a mixed literature regarding delivery method and types of technologies.

Differences in Telemental Health Delivery

One of the primary criticisms of these reviews is their tendency to under-recognize the variability of technology and to examine the potential impact that such differences in technology may have on alliance [11]. For example, when considering using self-guided computer programs, patients interact with a pre-programmed web-based application, where no

therapist is technically present. Given that no therapist is present, the alliance question changes from a patient provider alliance to one in which the relationship is between the patient and the program itself. Although these types of programs have demonstrated some positive therapeutic outcomes [19], there is some question as to whether or not this type of telehealth method contributes meaningfully to the discussion around technology and therapeutic alliance.

Despite the lack of a traditional therapeutic relationship, there have been attempts to measure alliance when no relationship with another person exists. Berry et al. have been working on methods to understand the therapeutic alliance when there is only a program, not another person [20]. They developed a measurement tool, the Mobile ARM, to assess alliance with self-guided programs and determine whether patients develop an attachment to the program or application. Their findings indicate that people do form a connection to the app or program, but also found that there were some difficulties around trying to delineate human qualities like concern or openness. They have not yet determined whether this connection to the app or computer program is enough of a relationship to influence outcomes in the same way as a traditional therapeutic relationship.

The literature reveals conflicting outcomes for self-guided programs, suggesting that the patients may still need that therapeutic relationship to be able to commit fully to the treatment. Studies indicate that patients like the idea of self-guided online programs, but also struggle with adherence to these programs. In a 2019 survey of patients' treatment preferences, Renn et al. found that self-guided treatment was preferred by only about 25% of those surveyed, with the main reason cited for not using these programs was lack of accountability to another person [21]. This lack of relationship with a provider may then impact outcomes, specifically around treatment completion. A review of computer-guided CBT found that only about half (56%) of the participants completed the program all the way through and that dropout rates were higher for self-guided programs than other telemental health or face-to-face treatment modalities [22]. This lack of relationship may impact outcomes, with a meta-analysis review finding that those programs with some clinician interaction had much higher effect sizes than standalone programs [23]. While self-guided programs may offer a pathway for patients to learn new material, especially for manualized type programs like DBT, CBT, or ACT, some type of support and accountability through the therapeutic alliance may also be needed to encourage patients through self-guided programs.

In combining the best of both worlds, a potentially more effective method of telemental health may be to use online programs as an adjunct to FTF treatments. In many of the studies reviewed, the patients participated in online treatments and had additional therapist support through FTF sessions or other methods such as electronic communications or synchronous video chats [2••, 13, 23]. In the studies in which there were both FTF and telemental health support, patients indicated that use of these technologies did not negatively influence the therapeutic relationship, but rather improved the relationship by increasing the perception of therapist availability. These additional communication methods allowed them time to think through their responses and process what happened in the individual session, as was identified by Richards et al. [2••], or deal with issues in real time rather than having to wait until the next appointment, as was illustrated by Lopez [13]. Using telemental health as an adjunct to treatment allows therapy to be an "ongoing and iterative process, not bound by time or space" [10] and may provide an enhancement to in-person care.

Despite the benefits of using technology as an adjunct to treatment, there are some limitations to this type of care, most of which impact the provider. In cases of e-mail or text support, there may be some difficulty in setting boundaries about when the therapist is actually available and expectations about response time. Additionally, many of these between-session conversations may not be covered by insurance and traditional fee-for-service billing models, leaving the provider doing more work outside the appointment time. This suggests that some of the questions about adjunct to treatment may need to be addressed from a bigger policy landscape in which the definition of "treatment" and specifically how clinician time and billing are affected by this ongoing process outside the traditional appointment boundaries of time. Until this is clear in the policy, it will need to be addressed by the provider. Disagreements about fees can often impact the therapeutic relationship, so expectations about what is and is not covered by insurance and whether the patient is responsible for additional charges should be addressed up front.

Patient vs Therapist Viewpoints—Why the Difference?

Regardless of the type of telemental health used, some common themes emerged from the reviews. One of the most common findings was that patients and therapists had different views about the therapeutic alliance while using telemental health. Overall, patients tend to report strong alliance and satisfaction with this type of therapy [24] and that any increases in social presence cues also increased levels of reported alliance [11]. However, therapists reported feeling as though the telemental health negatively impacted the relationship, with the therapists rating the alliance lower than the patients in the online interactions [2••, 13, 14, 17, 18]. There is some question as to why this may be. One simple explanation is that providers have training specific to building and

maintaining the therapeutic relationship and are therefore much more aware of it. Clinicians have shared concerns that they are often not sure how best to modify their behaviors in online environments so as to present the same messages of support, warmth, and compassion. One of the basic challenges mentioned by clinicians is webcam placement. In order to appear as though they are making eye contact with the patient, providers often need to look at the webcam instead of their computer screen and the patient's face. When trying to present one's clinical self by looking at the webcam rather than the patient, it is harder to observe the patients for subtle changes to body language and facial expressions. Patients may not be as aware of these issues as mindfulness to the body language of the clinician is not as ingrained in their role as patient. Rather, it feels as though it is a clinician responsibility, which may be why clinicians are more aware of the differences between FTF and telemental health experiences.

A second concern mirrors the questions about social cues and other ways in which clinicians assess their patients beyond conversation. In addition to facial or body language, psychiatric providers are trained to complete many aspects of the physical assessment by observation of features such as the patient's gait, their odor, and their way of breathing or by noticing changes in skin tone or texture. Without being able to more passively observe this data, providers have to either alter their assessment strategy or risk overlooking features which may be important. On the other hand, there are also many aspects that are unique to video conferencing, especially if the patient is in their own home. Unlike in-person office appointments, providers are able to observe the orderliness (or lack thereof) of the patient's space, the presence of animals, and the way they interact with the environment, background noises, and so on. This may influence choices of interventions offered. Not being able to assess the patients in the same way may influence how well they have been able to provide care to the patient, which would impact their perspective of the therapeutic alliance.

These notions are largely speculative and represent avenues for future investigation as to why providers rate the alliance lower with telemental health. Comfort with technology may be one of the factors, with studies indicating that those who received training around telemental health techniques also rated alliance higher than those who did not [15•]. Further training specific to therapeutic alliance, social cues, the use of specific technologies within the video conferencing technology, or ways to alter their assessments and interactions may be useful. Trainings around not only how to do assessment from a distance but also self-presentation may be useful to providers in creating more comfort in a space that already feels more comfortable to patients. Figure 1 offers more information on ways to increase awareness of the therapeutic alliance when using telemental health.

Technology-Related Problems

Another common concern raised through the studies is the impact technical difficulties have on the relationship. In some of the studies, the patients specifically mentioned that when there were technology-related problems, this negatively influenced the therapeutic relationship [12•, 16]. Technological failures are often difficult to immediately resolve and may occupy time better spent in therapeutic engagement. The frustration felt by both the clinician and the patient may carry over into the treatment relationship, which could impact the overall therapeutic alliance. While problems with technology cannot be avoided altogether, clinicians can plan ahead to minimize the impact of the problems on the therapeutic relationship. For example, before stating therapeutic work, it is recommended that the patient participate in a practice session. This gives the patient a chance to explore the technology without the pressure of also having work with therapeutic issues. During this initial session, the patient can receive training on the program features and ways to enhance the communication process. The practice session can also include troubleshooting solutions to problems if the technology is not working as planned.

Once the therapeutic work begins, the patient and provider should ensure there is a backup plan if the patient or the provider cannot connect, including a way to access each other via an alternative method of communication. Having this plan shows that the clinician is still available and willing to work with the patient despite the technology problems. This may be beneficial in strengthening the relationship by demonstrating that it is the patient, not the communication method, that is most important. An awareness and a shared understanding of the nature of the potential pitfalls of using technology for treatment, as well as a willingness to talk through technology-related frustrations, may help to keep the therapeutic alliance intact through any technical difficulties.

Future Research

In order to advance our understanding of the intended and unintended consequences of using technology to deliver mental health care, more investigation is needed. Future studies should examine the changes in alliance (if any) with changes in delivery systems. Results from such studies may influence patient selection, technology selection, and the like. Evidence to support the consistency of therapeutic alliance with a specific type of interaction may influence broader acceptance of telemental health from a reimbursement point-of-view. Further, the nature of what constitutes telemental health must be clearly defined in future research. The technological advances made have been significant, yet the research has yet

Fig. 1 A list of practical tips for maintaining awareness of the therapeutic alliance when using telemental health

Practical Tips for Maintaining Therapeutic Alliance in Telemental Health

- **Prior to the first visit:** Have a clear plan for consenting patients, receiving payments, insurance verification, and a safety plan for how crises will be handled from a distance, and how these may differ from in-person treatment.
- **Offer a Practice Session:** Prior to the first session, allow for time dedicated to learning the program features, troubleshooting any technical problems, and talking about ways they can use the technology to enhance the communication process.
- **Acknowledge the Awkward:** Be honest with yourself and the patient that this is a slightly different way to provide treatment and check in regularly about their feelings about receiving care in this way.
- **Setting Expectations:** Set mutually agreed upon expectations with the patient including managing interruptions, appropriate attire, background noise, and privacy. A strict "no-driving" policy should be enforced.
- **Professional Presence:** Your online presence should be intentional and professional. Things to consider include backdrop, lighting, background noise, and attire.
- **Engagement:** Non-verbal cues are key to therapeutic alliance. Look into the camera (rather than at the patient on the screen) to engage the patient. If you have a computer arrangement that requires you to regularly look away from the camera, inform the patient of what you are doing, "I want you to know that when I'm looking to the left, I'm looking at my other screen where your chart is located."
- **Self-guided programs as an adjunct to treatment:** Self-guided programs work better with some type of therapist support. If you recommend one to your patient, it may be helpful to check in with them regularly about their progress. For texting or e-mails, set expectations up front about timing of responses.
- **Technology Failure:** Have a plan for what to do if the connection is lost or if there are other technical difficulties. The plan may include a providing a direct phone number for the patient and the clinician to access during the session time. For asynchronous methods, such as self-guided programs, a password reset function, access to a help line, or other ways to get immediate help should be made available to the patient.

to fully reflect enhanced technological capability. A better understanding of the nuances of technology in the patient-clinician relationship will allow for better training of clinicians and allow further refinement in effective healthcare delivery using newer technologies.

Conclusion

The rate of technological advancement in the context of telemental health provides an opportunity for access to psychiatric and psychological services that is ever-evolving. It also provides an opportunity for focused inquiry as to the impact that specific approaches or modalities have upon the relationship between patients and clinicians. The literature supports the use of telemental health technologies, with details emerging as to the specific caveats necessary for successful engagement, as well as potential pitfalls to be avoided through careful planning and patient education. Although some nuances will continue to emerge, telemental health is a viable modality with the potential to improve access to care with a low impact on therapeutic alliance.

Compliance with Ethical Standards

Conflict of Interest Amy Lopez, Sarah Schwenk, and Rachel J. Griffin declare that they have no conflict of interest.

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