

Telepsychiatry Assessments of Child or Adolescent Behavior Disorders: A Review of Evidence and Issues

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Abstract

Background: The limited number of mental health specialists for children has led to an increased need for child and adolescent psychiatrists to provide primary care consultations and treatment recommendations. Psychiatric assessments and treatments provided via two-way videoconferencing (telepsychiatry) have been used to increase the availability of child psychiatrists. This article reviews the literature on telepsychiatry assessment of children and adolescents. *Methods:* Research on telepsychiatry has focused on the comparability of telepsychiatric treatments to in-person treatment for adult patients. Relatively little research has addressed the ability of telepsychiatric assessments to facilitate favorable treatment outcomes, particularly for child or adolescent patients. This was a literature search using Medline via Ovid. It focused on English-language material published between 1996 and 2009. A range of search terms relating to assessment, mental health, telemedicine, and children was used. Any studies focusing on child and adolescent psychiatric assessment were included. *Results:* The limited literature on children is usually related to project descriptions or case reports. The studies tend to find acceptance and the diagnoses and recommendations are not seen as different from in-person assessments. Practical considerations that arise in giving telepsychiatric assessments are discussed. *Conclusion:* Although there are significant weaknesses in the research justifying telepsychiatric assessments in children and adolescents, there are no data that

suggest that this process contributes to negative outcomes. Details on the setting for telepsychiatry assessments and camera view have not been studied.

Key words: telepsychiatry, assessment, children, mental health

Introduction

There are many factors contributing to interest in telepsychiatry, with workforce shortages and limited access to care among the most important. Problems associated with provider shortages¹⁻³ and the need to increase access⁴ have been well documented for some time. These problems are more severe when it comes to child and adolescent psychiatric services. With fewer than 9,000 practitioners nationwide, providers are too often not available.³ Access is further impaired by parental concerns about missing work and children missing school. In the wake of these reports, telepsychiatry has become one of the suggested solutions.^{5,6} Telepsychiatry is becoming viewed as a reasonable alternative to office visits. Patients can be assessed, given psychological treatments, and prescribed medications from a distant site.

The research on the efficacy of telepsychiatry for children and adolescents is very limited. Although the use of videoconferencing has been around for over 40 years,⁷ most of the clinical literature has been about adult patients, related to project descriptions, case reports, satisfaction surveys, or clinician experiences. To ensure continued growth in interest and availability of telepsychiatry for children and adolescents, there needs to be an evidence that the process, from assessment through treatment, produces or increases favorable outcomes. This article will review the literature on telepsychiatry assessment of children and adolescents and then discuss

the assessment issues that become relevant when considering telepsychiatry.

Clinical Studies

Hylar et al.⁷ reviewed studies that directly compared telepsychiatry and in-person (I-P) assessment interviews. They included studies with a sample size greater than 10 that used an equipment with “adequate quality to render smooth clear video pictures along with continuous uninterrupted audio.” They found 14 studies that met these criteria for their meta-analysis, including only one on children and adolescents.⁷ In addition to heterogeneous populations, different comparison measures were used, including the Brief Psychiatric Rating Scale. They found no significant differences in test instrument findings between those based on telepsychiatric interaction and those based on I-P interaction. They concluded that telepsychiatric interviewing produced the same quantity and quality of diagnostic information as I-P interviews.

The single study on children and adolescents included in the meta-analysis of Hylar et al.⁷ involved 25 patients aged 4–16 years. The subjects were interviewed twice, once I-P and once via telepsychiatry. The order of interviews was randomly assigned. Each assessment was described as intense and lasted for 90 min. The second assessment was conducted by a different psychiatrist on the next day. One of five participating child and adolescent psychiatrists was randomly assigned to each assessment. Diagnostic conclusions and treatment recommendations were not discussed until after the second assessment. The outcome measures included subjective responses by the psychiatrists, parents, and children. The study also used an independent evaluator, blinded to the interview method, who reviewed the responses to diagnosis, treatment, and satisfaction questionnaires. The independent evaluator found that for 96% of the patients, the diagnosis and treatment recommendations, based on information gathered in the two different assessment methods, were the same. Despite the substantial similarity of diagnostic impressions, the psychiatrists reported in a postproject questionnaire that telepsychiatry may not be adequate for evaluating teenage depression and for difficult teenagers who refused to cooperate. A related comment by one psychiatrist was that telepsychiatric assessment created an impersonal atmosphere, and there was concern about using it in emergencies. These opinions, however, had no further elaboration.

Myers et al.⁹ took a different approach to evaluate assessment. They conducted a naturalistic comparative study of telepsychiatry and customary outpatient care. Subjects were not randomized to care, the evaluations were not blinded, and there was no formal

control group. In 18 months, they evaluated 159 youth with telepsychiatry, and 210 I-P in the outpatient clinic. They found little difference in the two populations, with respect to age, gender, and payor mix. Although no statistical comparisons were done, they concluded that telepsychiatry does not skew evaluations and, based on the distribution of diagnoses and treatment recommendations, offers an evaluation of children and adolescents who are broadly comparable to those in usual outpatient care.

Pesämaa et al.¹⁰ published a systematic review of child and adolescent telepsychiatry, covering 1966–2003. They found 27 articles, which included only 2 small randomized controlled trials, including the study by Elford et al.,⁸ discussed earlier. Pesämaa et al. wondered if the frequent use of case studies and lack of controlled studies meant that negative aspects of videoconferencing in children could have been overlooked. They also questioned whether only positive results have been reported, suggesting publication biases. Based on the reviewed studies, they stated that it appeared that participants in videoconferencing were satisfied with its use. Poor quality of transmission was one of the most frequent complaints, and this was probably related to older reports, when equipment was not as sophisticated. A surprise comment was that some “experts” said it was easier to discuss difficult matters over video. They described the study by Elford et al.⁸ as high-quality evidence, and it was the only one that discussed assessment.

In Australia, Hockey et al.¹¹ evaluated a pilot second-opinion child-telepsychiatry service. The purpose was to provide outlying mental health staff with access to expertise located in an urban center. They explored the subjective usefulness of the service, whether the service was consistent with the ideals, values, and culture of the receiving clinic, whether there were administrative concerns, and whether pilot status inhibited referrals. They concluded that all participants found the service useful. It reduced the sense of isolation in remote areas, and the pilot status did not deter use. The outlying staff were interested in what types of allied health input might also be available. The study respondents also felt that better communication about clients and rural issues would be “required to improve rapport,” which might be achieved through the use of routine clinics. Further, sites in northern Queensland did not see the hospital in Brisbane where the consults originated, as a “logical destination” for the transfer of acute patients. Although the satisfaction with telepsychiatric consultation was good, suggesting satisfaction with assessment, the validity of assessments was not evaluated.

Hakak and Szeftel¹² reviewed the clinical use of telemedicine in child psychiatry. Their search found 33 related articles including 8 case studies demonstrating the clinical benefits of telepsychiatry.

There were 3 studies with comparison groups that measured the reliability of interactions in conventional versus telepsychiatry interviews, and 1 of those was a treatment study. The other studies included 18 satisfaction studies, and 4 “comprehensive” articles. The authors noted that child telepsychiatry has not kept up with the general field, as there are only few reliable, standardized methodologies. They recommended longitudinal studies with larger subject pools to focus on the impact of telepsychiatry on diagnosis, treatment, and outcomes.

Additional Considerations

Despite the striking lack of empirical support for the validity of assessment, telepsychiatric assessment guiding treatment recommendations is gaining widespread acceptance. One of the authors (J.D.) has performed psychiatric assessments on over 120 children over a 2-year period in a consultation model to a large pediatric practice located in a town 50 miles distant. The assessments were via a PolyCom VS3000 unit, with a 17-inch monitor with dual stereo microphones and speakers embedded. A similar unit was in the pediatric office, in a specific room. The pediatricians phoned the telemedicine center at the university, to schedule up to three case-centered consultations per week. One of the pediatricians' office staff took responsibility for scheduling and served as the point person to contact for any concerns. She turned the equipment on, placed each family in the room, collected signatures on billing/consent forms, and explained the basics of telemedicine equipment. At the conclusion of each assessment, the pediatrician entered the room for treatment recommendations, was reached by phone, or had written consultation reports faxed. A final completed and dictated evaluation was also faxed after transcription. On a few occasions, there have been requests for follow-up appointments, but the vast majority of patients remain managed within pediatrics, suggesting that the assessments were clinically useful. The lack of follow-up, however, does not allow the connection of assessment with behavioral or emotional improvements, which are, after all, the primary goals of assessment. The subjective response of the pediatricians has been positive, and another distant practice has expressed interest in the service.

These cases, however, have made several concerns apparent that may affect the evaluation process. The camera is often part of a desktop unit with the camera built into the monitor and so it is not able to view the entire room. Occasionally, off camera events are not viewed if an observer in the room is not available. For example, in one evaluation, an adolescent child and mother were holding hands, but under the table and out of view. If this was not reported by an

onsite staff member, the telepsychiatrist would have been unaware of the behavior and, potentially, unaware of the anxiety or support it signaled. A better view can be obtained by not having a table in front of the patient, although this does not completely solve the problem. Some children crawl about the floor out of camera view and, without the ability to remotely change the camera angle, may not be viewable.

An additional concern with the camera is that it is mounted in the unit, but at the top of the monitor. This can give the appearance of not looking the patient in the eye, as looking at the monitor would appear to be looking down to the patient. Although no patients have complained overtly about this phenomenon, it is reported in the literature.¹⁰ This is made worse if the camera is placed to the side of the monitor. New technology will address this with cameras in the center of the monitor, but those are not readily available at this time.

Preschool evaluations can be a more complicated scenario. This is because it requires more assistance at the distant site. There are solutions but they require collaboration with the site requesting consultation, and they require creativity. For example, either a parent or clinician can interact with the child, while the child and interaction are being viewed, or the child can be provided with a variety of items, such as puzzles or paper and pencil, and watched playing. Thus, when verbal communication alone is not sufficient, other methods can be utilized.

Providing telepsychiatry assessments have other considerations that may differentiate them from I-P assessments. The technology allows the possibility for an assessment even as geographically remote as another continent. Although an office I-P consultation can be a one-time event, if I-P contact is not feasible, a difficult or confusing patient cannot be seen or followed in a local clinic and so other arrangements must be made. Telepsychiatry follow-up is certainly feasible, depending on the patient's distance from a telepsychiatry site, as well as on the telepsychiatrist's time.

One-time consultations on difficult cases can also lead to frustration and potential burn-out. Discomfort can arise from not knowing outcomes, which could undermine the telepsychiatrist's satisfaction or confidence. Even if the consultee were to eventually provide information on outcomes, it is less satisfying when the case was initially seen weeks or months earlier.

Conclusions

There is a need for research that supports the use of telepsychiatric assessment in conditions where there is a lack of follow-up. The key justification for assessment, in general, revolves around the positive

effects it has on outcomes. The link between assessment and outcomes requires treatment and outcome monitoring. In telepsychiatric assessments where there is little or no follow-up, it is unclear if the assessment recommendations are implemented, or whether the assessments changed the treatment trajectory of the patient at all. It is a step further than showing that the assessor would make similar recommendations via teleconferencing and I-P. It also tests whether the receiver of the telepsychiatric assessment discounts it because of the telepsychiatric nature of the assessment, or because of the knowledge that there is not likely to be any follow-up.

Child and adolescent psychiatry assessment and treatment recommendations should not be limited to issues around psychopharmacology. The process of seeing a patient from afar, evaluating current treatment, and making recommendations can easily fall into the trap of simply focusing on changing medication regimens. However, many children will require therapy or other psychosocial interventions. The telepsychiatrist is limited by whatever local interventions may be available. For example, recommending cognitive behavioral therapy for depression requires the availability of a therapist with skills in that therapy. It is not uncommon to hear from parents that the child with externalizing symptoms is seeing a therapist for individual therapy, when the evidence is greater for parent training. However, the consultee may not know of other local resources and depends on specific therapists in their town. The telepsychiatrist needs to consider educating their primary care consultees about appropriate interventions and helping them understand the mental health system. This becomes problematic when the telepsychiatrist has little knowledge of resources in the consultee's locale.

Geographical diversity has other challenges. As telepsychiatry crosses state lines, knowledge of the local system can be limited. This can become even more difficult when dealing with the military. The military has an enormous shortage of mental health professionals so that there may be fewer psychosocial resources available for referral. Even family interventions can be limited where a parent may have been deployed abroad, and the family has few local family resources. These differences are made more acute when telepsychiatric assessments are limited to one-time appointments.

Single appointments, assessments, or consultations are all more time consuming, with a greater risk of poor time utilization due to cancelled or missed appointments. Although this is a problem for all practice settings, the telepsychiatrist may not be in a location to do other work during that down time and will need to consider how to approach missed appointments. An additional concern is the difficulty with an assessment-only practice, without time for follow-up

appointments. Back-to-back assessments for most practitioners constitute a more difficult practice, than a mixed schedule, and can lead to burn-out. Rather than focus exclusively on assessments, the telepsychiatrist can diversify the telepsychiatric services she/he provides, to include individual, couples, and maybe even group psychotherapies as well as medication checks. Follow-up of previously assessed patients would also diversify activities and provide feedback as to whether the assessments contributed to favorable outcomes. An inability to follow-up suggests that treatment recommendations may not have been implemented and that the consultee agency or practice is also not following up on patient progress or outcomes.

Studies on assessment reliability and validity until now have not specified the details of setting and view. It is an empirical question whether setting (i.e., no possibility for another appointment) or view (i.e., table partially blocking view) details affect the validity of telepsychiatric assessments. To this point, studies on telepsychiatric assessment have relied exclusively on superiority-design comparisons of diagnostic reliability and comparability to I-P assessments and have accepted the null hypothesis that there are no differences between assessment methods. There are currently no findings suggesting that telepsychiatric assessments are biased toward recognizing certain disorders over others, or that telepsychiatric assessments are not comparable to I-P assessments. Further, there is no indication that adverse effects have resulted from the telepsychiatric assessment process. Further studies should use equivalency designs,¹³ which would use a larger sample size to test for the smallest clinically meaningful differences between I-P and telepsychiatric assessments of child or adolescent behavioral disorder. Although data are extremely limited, continued growth in the use of telepsychiatric assessments to increase mental health access for children and adolescents is warranted.

Disclosure Statement

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