Selected Telepsychiatry Reference List

Studies addressing Validity of Diagnosis:


Looked at reliability of Structured Clinical Interview for DSM III-R through telemedicine. Sample was 53 adult male, American Indian veterans who were randomly assigned to FTF->Video or Video ->FTF and they had different raters for each setting and received the SCID in each setting. No significant difference in prevalence of diagnoses between modalities, except for substance abuse/dependence. Percent agreement was greater than 80% except for substance abuse (72%) and major depressive disorder (66%). Possibly easier to detect externalizing behaviors, however, PTSD showed good detection. SCID was felt to be reliable through televideo.


Sample of 23 patients ages 4-16 years of age were randomly assigned to FTF->Video or Video ->FTF. They had different raters for each assessment and assessments occurred over two days. Patients had a naturalized assessment by a Child Psychiatrist and received satisfaction questionnaire. An independent rater compared the diagnoses and treatment recommendations in the two settings and found 96% agreement. Patients showed high levels of acceptance and 91% preferred video to traveling for FTF.


Compares accuracy of telemedicine assessment to face-to-face. Sample was 37 consecutive new adult psychiatry referrals who had not received any care in past 6 months. Patients were randomly assigned to FTF -> Video or Video -> FTF. All interviews occurred on the same day. Each interviewer used their “own style” of initial assessment, simulating a naturalized patient setting. FTF was assumed to be the gold standard against which Teledem was judged, i.e. FTF diagnoses and decisions were assumed to be 100% accurate. They used DSM IV diagnosis and a sheet indicating the next clinical step they would prescribe. Kappa scores showed substantial to perfect agreement on DSM IV Axis I Diagnoses. There was some variation in risk assessment (on a non-validated scale).
Outcome Studies:


   RCT comparing CBT via Video and FTF. Sample was 28 children, 8-14 yoa, who received 6-8 weeks of CBT either through Video or FTF (for each child, all sessions were completed through a single medium, i.e. either all through video or all FTF). They did KSADS and CDI pre and post treatment and found 82% remission rate (i.e. patients no longer meeting criteria for depression) across both FTF and Video. Had high rates of satisfaction and attendance in the video setting (patients in both settings traveled to the same location for services – so there is no “convenience effect”) and felt able to implement all aspects of CBT through video. Interestingly, the Video group had a greater rate of decline than FTF (but it is a small sample size). One of few studies showing therapy outcomes in children.


   RCT comparing FTF and Video direct “naturalized” treatment of Depression (med management, psychoed and brief supportive counseling). Sample was 131 male veterans with a mean age of 49.7. They had a FTF assessment initially that used the SCID to determine diagnosis of Depression and a cut off score of 16 on the HamD (excluded Bipolar, current treatment, and Substance abuse). Patient continued going to the same clinic and either got care via Video or FTF. Treatment was 8 sessions with a psychiatrist over 6 months, including initial evaluation and med management along with brief supportive counseling and psychoeducation. Patients showed significant improvement in depressive symptoms independent of treatment modality (on both HamD and BDI). No difference in adherence over time, medication compliance (pill counts) or patient satisfaction. Psychiatrists preferred FTF but there was no difference for patients. Costs were equivalent once physician travel expenses were accounted for and travel exceeded 22 miles.


   RCET comparing FTF and Video “consultative” treatment across range of different diagnoses. Sample was 286 adults, age 18-65 years, who received a Brief Symptom Inventory score in the dysfunctional range. Patients were referred by PCP and received consultative care(including initial evaluation and option for initial med management (sometimes just recs to PCP) along with brief supportive counseling and psychoeducation, as well as referral to local therapy resources). Demonstrated that Video and FTF were equivalent in terms of taking people from a dysfunctional score on the BSI to a functional one. Also found equivalent satisfaction.

RCT comparing Video and FTF treatment across a range of diagnoses using CBT and medication. Sample was 140 adult patients. Used the CIDI to determine diagnosis and the same psychiatrist diagnosed and then provided treatment. Patients received 8 sessions over 24 weeks that consisted of med management and CBT. Followed the SCL-90 (Global Severity Scale) and CGI. 80% of patients in video setting were “much or very much” improved and 75.7% were the same in FTF on the CGI scale. No significant difference between the two settings treatment efficacy.


Compares Video and FTF treatment of combat-related PTSD in the VA setting using CBT in 14 weekly, 90-minute individual treatment sessions that specifically-targeted social skills training and activities to increase social engagement. The study had 38 participants randomized to 17 in video and 21 FTF. They used self-report measures such as the BDI for depressive symptoms; PTSD Checklist M for symptom severity and Global Severity Index for overall functioning. They used PC-Based equipment with transmission rates were 384 kbit/s. No differences were found in clinical outcome variables, drop-out rates, or satisfaction. They found no difference between the groups in attendance, but the FTF group was more likely to complete homework and the FTF group was also more likely to report that they felt comfortable talking to their therapist post treatment. There were no differences between the groups but low rates of improvement in both which they speculate may be related to the specific VA setting.


The study compares the efficacy and acceptability of a manual-based CBT for bulimia nervosa (BN) delivered via video versus FTF. The study had 128 adults randomized to Video vs. FTF for 20 sessions of manuualized CBT over 16 week course. The primary outcomes were binge eating and purging frequency assessed by self report forms and interview at the end of treatment and again at 3 month and 12 month follow up visits. They found comparable retention rates across settings. Abstinence rates were slightly higher for FTF, but not statistically significant. FTF patients had a small but statistically significant greater reduction in eating disordered cognitions and interview-assessed depression. Transmission used T1 lines. Investigators felt that external factors such as limited flexibility in scheduling telemedicine visits and technical problems impacted the study. The paper also has practical suggestions for completing CBT homework and room requirements. They also published a related paper on cost effectiveness in Evaluation of Cost Section by Crow S)
Reviews:


Reviewed child-specific literature as of 2003. Found that only 2 studies met rigorous quality of evidence standard in being properly designed randomized controlled trials. Has good review of various articles up until that time. Discussed the importance of high quality video for rapport and diagnostic assessment. Reviews benefits for remote sites of increased access to specialists and help for urgent needs and decreasing professional isolation in rural communities. Discussed that some children may feel uncomfortable or embarrassed or dislike if eye contact is not direct. However, most patients preferred video to traveling long distances.


Conducted a meta-analysis on studies that directly compared FTF and video with an N of >10 using objective assessments instruments (SCID, HAMD, BPRS, MMSE) or satisfaction instruments. Found that video was similar to FTF when using objective instruments and no difference was found between the two settings in terms of satisfaction.

Evaluation of Costs & Show rates:


Reviewed literature on studies that specifically addressed cost and had more than 10 patients in the series. 7 seven studies showed it was worth the costs, 3 studies at break-even and 1 study showed it was not viable. Breaks costs into Direct (line charges, equipment, etc.), Indirect (admin. Overhead) and Hidden (training, document transmission, training, etc.). Identified importance of decreasing costs of connectivity, encouraged “true cost” accounting that looks at expenses for patient and physician travel as well as lack of escalation in care if services are delivered promptly through telemed. Encouraged having sound business plan that addresses time and volume needed to get to break even, i.e. sufficient volume to offset technical costs.


Detailed review of UC Davis program that provides teleconsultation to rural PCPs. Includes information on services billed (including $ amounts) and their procedures (such as having a telemedicine coordinator, referring site managing no-shows and providing blocks of time. Follows their payor mix and delays experienced when billing insurance companies for services.

Reviewed appointment data for Telepsychiatry consultations and therapy. Showed that higher percentage of Telepsychiatry appointments being kept compared to non-telepsychiatry and that appointments were less likely to be canceled or no-show. Also noted that poor staff morale at remote sites impacted referral pattern.


This study took the patients from the authors’ randomized controlled trial on CBT treatment of Bulimia Nervosa via video vs. FTF and looked at associated costs. The treatment consisted of 20 manuualized CBT sessions over 16 weeks. They looked at the following costs: evaluation and laboratory, CBT, subject travel, gasoline and therapist travel. They determined the cost per abstinent subject as $9,324.68 for FTF-CBT and $7,300.40 for Video CBT. The largest factor in accounting for this significantly lower cost of Video CBT is therapist travel cost.


Compares Video and FTF in patients who had received a year of FTF care and then agreed to switch to Video (had option to return to FTF). Showed adherence ratios that were twice as high in Video group. Costs were higher for Video when didn’t take patient expenses into account. Followed BPRS scored which decreased and CGI scores were unchanged. Patients expressed satisfaction with Video.

Published Guidelines:


Reviews establishing a service, optimizing clinical practice (including practical tips regarding camera placement, etc.) and procedures for care (including medication prescription, etc.)


Takes authors experiences providing emergent services through telemed and distills them into a guideline that covers administrative, legal and general clinical issues as well as some issues that are specific to rural settings. Recommends shared written protocols and clear delineation of responsibilities.
Dissenting Papers:


Interviewed 11 psychiatrists that are providing outpatient services through telemedicine as employees of clinics (i.e. there is no difference in reimbursement between video and FTF). All psychiatrists saw the patient first FTF. Some psychiatrists felt it was less personal or more difficult to establish rapport or follow nonverbal cues. Also identified technical barriers related to scheduling, video lag, technical support, lack of control of remote site or poor design of rooms. Recommend initial visit FTF, orientation of patients to equipment, calling in scripts and assistant at the remote site, as well as good technology and technical support.


Retrospective review of referral rates across all specialties in the Arizona Telemedicine program. High turnover rates of personnel at remote site were found to account for large degree of fluctuations in referral rates. Article noted that Telepsychiatry uniquely followed up on missed consultations – capturing 63% of initial missed visits through telemedicine. Noted high cost of physician time if a patient does not show. Overall felt that pattern of missed visits was similar to that seen in FTF.


Review of literature on dissenting opinions including concerns about depersonalization of the doctor-patient relationship, impact of video on presentation and interaction style, sensory and non-verbal limitations. Notes impact of poor video quality on relationship and satisfaction. Recommends developing norms and standards of care and notes benefits in terms of increased access and collaboration among professionals.


Uses sample cases to review of ethical issues in Telepsychiatry related to licensure, credentialing, privacy, security, confidentiality, informed consent and professional liability. Based on this information, will likely need to be licensed and credentialed at both sites. Will need to make sure that privacy is addressed through technology and room considerations and to make sure that informed consent regarding telemedicine is obtained along with malpractice coverage specific to telemedicine.
Satisfaction Research:


Looked at parent satisfaction with PCP referred children in a sample of 172 children age 2-21 years old. Found high satisfaction that increased over the course of return visits. High scoring items were increased access and decreased time to appointment.


Looked at satisfaction of referring providers from 62 PCPs who had referred children from 2-21 years of age. Found high satisfaction in particularly with increased access to consultation. Service was medications and diagnosis and there was some suggestion that PCPs would like more services offered.


Looked at differences in satisfaction between remote sites in suburban areas vs. rural areas and found that patients and PCPs in rural areas had higher satisfaction than their suburban counterparts.


A descriptive study looking at interviews from 30 patients who received telemmedicine. Discusses a range of responses and notes that many youth found the novelty of the technology to be a significant advantage and highlight of the experience.


Looked at the satisfaction of incarcerated youth (age 13-19) with Telepsychiatric treatment and showed positive responses and some concerns about privacy that were specific to the detention setting.


Looked at 60 adult patients who were referred to an acute ward and had the option of receiving their first psychiatric contact through telemedicine and found high satisfaction as well as a strong preference for telemed rather than waiting or being transferred.

The study consisted of a survey of rural primary care physicians in Ontario who had access to an unpublicized telemedicine service for treatment of children with mental health diagnoses. The centralized mental health intake service (CHEO) had partnered with local hospitals to provide telemedicine follow up after discharge from the hospital, but had not done direct publicizing to physicians. They surveyed 70 physicians that practiced in a rural area and saw children. Only 27% of clinicians were aware of the telemedicine option, and 0-24% had referred to it, however, 90% indicated they would refer to the service. They felt the primary benefits would be access to care and reduced travel. The primary care providers’ primary concerns were that they didn’t know and didn’t know how it would be reimbursed. The investigators posit that lack of awareness and promotion may be key barriers to implementing telemedicine.

Collaborative Care:


Retrospective review of children who received full diagnostic evaluation via video and then consultation with PCPs using CBCLs at baseline and 3 months later to assess improvement. Sample was 139 children, age 1-17 with a mean of 10.7. Showed a broad variety of diagnoses were made via telemed broadly consistent with national data on prevalence. Showed significant improvement in affect and oppositional domains of CBCL (although girls improved more in affect and boys more in opposition).


Study looked at referral patterns and PCP skills as part of an intervention that involved video consultation on patients, observation of psychiatrist’s assessments by PCP and CME lectures. Over time referral needs showed decreased need for assistance in establishing the diagnosis and increased need for help with new or current treatment plans. Surveys also showed increased use of local care by PCP without medical delay. Also showed increasing compliance with national dosing standards on medication by PCPs.


Looked at telemedicine for psychiatry, endocrine and dermatology and conducted a retrospective chart review to determine if a telemedicine consultation resulted in a change in diagnosis or treatment and to assess the clinical improvement (if it was mentioned in the chart). Psychiatry consultation resulted in changes in diagnosis 36.9% of the time, changes in treatment 93.8% of the time and clinical improvement in 72.3% of the patients. (N=65 charts reviewed with age range of general sample 6 months to 85 years).
Studies in Special Populations:

- Schizophrenia -

  Used BPRS via video and found that total scores were reliably assessed via video and higher bandwidth resulted in more accurate assessments of negative symptoms and was preferred by patients.

- Obsessive Compulsive Disorder -

  Administered the YBOCs via Video and FTF concurrently, i.e. one evaluator was in the room and one was there via video and they both completed the scale with the video person asking the questions. Found high reliability in both settings.

Program Development:


  Review of their experiences setting up rural telemedicine clinics that proposes a 6 stage model: needs identification, infrastructure survey, partnership organization, structure configuration, pilot implementation and then solidification. Identifies the importance of having local advocates, satisfaction surveys, designing services to meet community need, written protocols and agreements, and regular reports to stakeholders on utilization.