could be adapted to a telenp program. Additionally, clinicians generally felt confident in the validity of the results and that the data gathered were sufficient to answer the referral question and make salient treatment recommendations and referrals. Importantly, there were some notable limitations to telenp assessment and not all patients were testable via telehealth.
Conclusions: Qualitatively, hybrid telenp evaluations are feasible and acceptable, and appear to be a valid alternative to face to face neuropsychological assessments. Future research should focus on establishing the reliability and validity of telenp testing compared to face-to-face testing, collective quantitative data regarding patient and clinician experiences of telenp and identify methods for implementing telenp in clinics in rural catchment areas to increase access to neuropsychological services.

Categories: Teleneuropsychology/ Technology
Keyword 1: teleneuropsychology
Keyword 2: neuropsychological assessment
Keyword 3: technology
Correspondence: Dayana Rodriguez Psy.D., University of Miami Miller School of Medicine, Department of Neurology, Division of Neuropsychology, dxr268@miami.edu.

83 Association Between Tele-Neuropsychological Versus In-person Assessment in a Clinical Sample of Veterans with a History of Traumatic Brain Injury

Elena Polejaeva[1,2], Karen Hanson[1,2], Amy Jak[1,2]
[1]VASDHS, San Diego, CA, USA. [2]UCSD, San Diego, CA, USA

Objective: During the COVID-19 pandemic, many neuropsychological services shifted from an in-person assessment to a tele-neuropsychological assessment format. Prior research studies support the use of telemedicine assessments but have also noted some limitations (i.e., tasks involving direct manipulation of physical stimuli and visuospatial tasks). We sought to examine the relationship between the same neuropsychological tasks administered via a telemedicine versus in-person format in a treatment seeking clinical sample of Veterans with history of TBI.
Participants and Methods: Veterans with history of mild to severe TBI (predominantly mild TBI) referred to the TBI Cognitive Rehabilitation Clinic within the San Diego Veterans Affairs Medical Center completed a comprehensive neuropsychological assessment to help inform diagnosis and treatment recommendations. 515 Veterans completed traditional in-person assessment (pre-pandemic) and 45 Veterans completed neuropsychological assessment via a telemedicine platform during the pandemic (Veteran was in their home and examiner was in their home or facility office). The total sample consisted of 93% male and 7% female, average age of 33, 13 years of education, 63% White, 13% Other/Non-reported, 12% Black, 6% Asian, 6% Pacific Islander, 2% Alaskan Native, and 1% Multi-Racial, 73% Non-Hispanic, and 27% Hispanic. For the purposes of this study, we used age-corrected subtest scores from the Delis-Kaplan Executive Function System (D-KEFS): Color Word Interference (CWI) and Verbal Fluency (VF), WASI-II Matrix Reasoning, California Verbal Learning Test (CVLT-II), Wechsler Memory Scale (WMS-IV): Logical Memory, and WRAT-IV Reading. We also examined symptoms of anxiety (BAI), sleep quality (PSQI), neurological symptoms (NSI), and symptoms of PTSD (PCL-5). ANOVAs were used to analyze the relationship between tele-neuropsychological versus in-person administration. Additionally, we controlled for performance validity failure.
Results: Tele-neuropsychological task results were comparable to in-person assessment across all tasks, except for D-KEFS CWI color naming subtest where individuals completing the task via telemedicine performed approximately 2 scaled scores below the in-person assessment group, F (1, 278)=6.44, p=.012. Individuals who completed the tele-neuropsychological assessment during the COVID-pandemic did not differ on scores of self-reported symptoms of PTSD or neuropsychological symptoms when compared to in-person assessment of pre-pandemic individuals within our clinic. However, the telemedicine group reported better sleep quality (F (1, 377)=11.94, p=.001) but a trend towards more symptoms of anxiety (F (1, 552)=2.90, p=.089.
Conclusions: These results suggest that many of the verbal memory, language, premorbid functioning, and verbal/visual tasks of executive function can be adequately administered via telemedicine. Substantial variability may exist on measures of processing speed administered via

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telemedicine, however. Additionally, changes in lifestyle and daily demands during the COVID-19 pandemic may have created unique circumstances that benefited sleep quality for some individuals but also increased symptoms of anxiety/uncertainty.

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Correspondence: Elena Polejaeva, Ph.D., VASDHS, elena.polejaeva@va.gov

84 Feasibility and Validity of Remote Digital Assessment of Multi-Day Learning in Cognitively Unimpaired Older Adults

Emma L. Weizenbaum[1], Daniel Soberanes[2], Stephanie Hsieh[2], Olivia R Schneider[2], Shruthi Srinivasan[3], Rachel F Buckley[1], Michael J Properzi[1], Dorene Rentz[2], Keith A Johnson[2], Reisa A Sperling[2], Kathryn V Papp[2], Rebecca E Amariglio[2]
[1]Massachusetts General Hospital, Boston, MA, USA. [2]Brigham and Women's Hospital, Boston, MA, USA. [3]University of Airzona, Tucson, AZ, USA

Objective: Unsupervised remote digital cognitive assessment makes frequent testing feasible and allows for measurement of learning across days on participants' own devices. More rapid detection of diminished learning may provide a potentially valuable metric that is sensitive to cognitive change over short intervals. In this study we examine feasibility and predictive validity of a novel digital assessment that measures learning of the same material over 7 days in older adults.
Participants and Methods: The Boston Remote Assessment for Neurocognitive Health (BRANCH) (Papp et al., 2021) is a web-based assessment administered over 7 consecutive days repeating the same stimuli each day to capture multi-day-learning slopes. The assessment includes Face-Name (verbal-visual associative memory), Groceries-Prices (numeric-visual associative memory), and Digits-Signs (speeded processing of numeric-visual associations). Our sample consisted of200 cognitively unimpaired older adults enrolled in ongoing observational studies (mean age=74.5, 63% female, 87% Caucasian, mean education=16.6) who completed the tasks daily, at home, on their own digital devices. Participants had previously completed in-clinic paper-and-pencil tests to compute a Preclinical Alzheimer's Cognitive Composite (PACC-5). Mixed-effects models controlling for age, sex, and education were used to observe the associations between PACC-5 scores and both initial performance and multi-day learning on the three BRANCH measures.
Results: Adherence was high with 96% of participants completing all seven days of consecutive assessment; demographic factors were not associated with differences in adherence. Younger participants had higher Day 1 scores all three measures, and learning slopes on Digit-Sign. Female participants performed better on Face-Name (T=3.35, p<.001) and Groceries-Prices (T=2.00, p=0.04) on Day 1 but no sex differences were seen in learning slopes; there were no sex differences on Digit-Sign. Black participants had lower Day 1 scores on Face-Name (T=-3.34, p=0.003) and Digit Sign (T=3.44, p=0.002), but no racial differences were seen on learning slopes for any measure. Education was not associated with any measure. First day performance on Face-Name (B=0.39, p<.001), but not learning slope B=0.008, p=0.302) was associated with the PACC5. For Groceries-Prices, both Day 1 (B=0.27, p<.001) and learning slope (B=0.02, p=0.03) were associated with PACC-5. The Digit-Sign scores at Day 1 (B=0.31, p<.001) and learning slope (B=0.06, p<.001) were also both associated with PACC-5.
Conclusions: Seven days of remote, brief cognitive assessment was feasible in a sample of cognitively unimpaired older adults. Although various demographic factors were associated with initial performance on the tests, multi-day-learning slopes were largely unrelated to demographics, signaling the possibility of its utility in diverse samples. Both initial performance and learning scores on an associative memory and processing speed test were independently related to baseline cognition indicating that these tests' initial performance and learning metrics are convergent but unique in their contributions. The findings signal the value of measuring differences in learning across days as a means towards sensitively identifying differences in cognitive function before signs of frank impairment are observed. Next steps will involve identifying the optimal

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