

Viability of telepsychiatry— results from an ambulatory academic tertiary care clinic

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ABSTRACT

During the 2020 COVID-19 pandemic, telemedicine became an important method of providing patient care and minimizing person-to-person contact. For example, it has been considered a reasonable option for patients who have been discharged from the intensive care unit (ICU) and other acute settings. Previous studies have indicated that using telemedicine with psychiatry, also known as telepsychiatry, may be preferred by certain patient groups, such as rural patients. This study aims to evaluate the impact of transitioning to telepsychiatry services in response to the pandemic on patient appointment compliance of a university affiliated ambulatory clinic in Lubbock, Texas. Retrospective data on clinic appointment attendance from three separate three-month time periods (March–June 2019, December 2019–March 2020, March–June 2020) were used to determine their respective no-show prevalence. Results were analyzed with chi square testing ($\alpha = 0.05$). No-show rates were significantly associated with time period ($p < 0.01$). No-show prevalence was lowest during the time period of using telepsychiatry in comparison to the time period immediately before the transition and in the corresponding time period of the previous year.

Keywords: Telemedicine, telepsychiatry, COVID-19, coronavirus, pandemic, ICU

BACKGROUND

The past decade has seen telemedicine emerge as an innovative and established method of providing appropriate and routine medical care. The introduction of COVID-19 and the consequent global pandemic have brought telemedicine to the forefront in multiple clinical settings.¹ This is despite a variety of criticisms that question using telemedicine—especially in the psychiatric setting. Critiques include the possibility of 1) a decrease in overall rapport with providers, 2) difficulty in arranging telemedicine equipment, and 3) limited provider skill in using this technology.² Clinicians have also expressed concern regarding the

quality of information obtained from a telephonic or tele-video visit as it relates to a formal mental status examination and reaching diagnostic accuracy. The lack of availability of vital signs has also been considered a hindrance to the widespread use of this technology.

Arguments in favor of using telepsychiatry include decreased infection risk to healthcare providers, especially patients who have been recently discharged from the hospital. These patients may still be infectious and may not be physically able to participate in detailed face-to-face psychiatric evaluations. To reduce the spread of the novel COVID-19 virus, remote patient care via telemedicine serves as a valuable means to provide healthcare during pandemic restrictions. Consequently, regulatory agencies have broadened the use of telemedicine by easing regulations and expanding reimbursement policies. In March 2020, Medicare demonstrated its willingness to pay for

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treatment of COVID-19 patients via telemedicine. Additionally, the Health Insurance and Portability Act (HIPAA) began allowing providers to use personal phones and social media applications—such as Facetime—to treat patients.¹

The American Psychiatric Association (APA) has supported the use of telepsychiatry, spearheading efforts to establish telemedicine since the 1950s.³ A foundational objective of telemedicine is to deliver healthcare to remote patients who otherwise would not have routine, accessible care.² With the advancement and proliferation of communication technologies at lower costs, telemedicine has become a common method for delivering healthcare to patients. Telemedicine is well-suited for the practice of psychiatry, as the majority of care is provided by audio and visual means of communication, with minimal-to-no requirement for physical examination. Although valid concerns and potential flaws associated with remote care exist, the use of telemedicine to diagnose and treat psychiatric disorders has been shown to be as reliable⁴ and effective as traditional in-person methods across a wide range of patient populations and disorders.^{5,6} Remote delivery of psychiatric care has also consistently received high patient satisfaction ratings,^{4–6} with certain patient populations, such as rural patients, reporting higher satisfaction with telemedicine visits than suburban patients.⁷

Previous studies on telepsychiatry have suggested that patients may be more willing to attend their appointments remotely due to a reduction in travel time and costs, a benefit that promotes access to care particularly for elderly and rural patients.⁵ Furthermore, patients may prefer virtual visits because they feel more comfortable in a familiar environment, giving them a stronger sense of independence and control,⁵ especially patients with PTSD or Asperger syndrome.⁸

The Texas Tech University Health Sciences Center (TTUHSC) Department of Psychiatry ambulatory clinic services patients from a large catchment area comprising major portions of West Texas and Eastern New Mexico. Due to a shortage of mental healthcare providers in those regions, patients from more rural areas seeking psychiatric treatment often have long commutes and higher travel costs. This

hindrance has been exacerbated by the stay-at-home guidelines placed during the pandemic, limiting travel for many. As part of the effort to minimize gaps in the continuity of care, this department is interested in exploring innovative methods to efficiently provide care to our more rural population, including considering the long-term use of telepsychiatry. Because telepsychiatry has been documented to be associated with decreased rates of appointment no-shows across multiple mental healthcare settings, it is helpful to determine whether the TTUHSC psychiatry clinic has noted a similar trend since transitioning to telepsychiatry during the 2020 COVID-19 pandemic. The purpose of this study is to compare and analyze the prevalence of missed appointments three months before and after offering telepsychiatry services in an outpatient ambulatory setting to assess the benefits of implementing telepsychiatry as a long-term solution to more efficiently providing evidence-based psychiatric care to patients in rural areas. The study provides a background information needed to undertake a study on patient satisfaction and outcomes with telepsychiatry.

METHODS

Clinic records on the number and status of new and follow-up scheduled appointments at the TTUHSC psychiatric outpatient clinic in Lubbock, Texas, were obtained using Powerchart (Cerner Corporation). An institutional review board waiver was obtained as the study was considered a QIRB project, which does not require institutional review board approval. The retrospective data were collected from three non-overlapping time periods: March 15 to June 15, 2019 (time period one) to control for the effects of the pandemic on appointment compliance, three months before switching to telepsychiatry from December 15, 2019 to March 14, 2020 (time period two), and three months after switching to telepsychiatry from March 15, 2020 to June 15, 2020 (time period three). Appointment labeled as “no-show” (i.e., missed appointments without any prior notification) were used to calculate a no-show rate; all other missed appointments, such as “cancelled” or “rescheduled,” were categorized as fulfilled appointments. Data were

Table 1. Percentages of No-shows Relative to Number of Visits Across Three Time Periods

Time Period	Total number of Appointments n = 6657	Number of No-Shows	Percent No-Shows
Mar 15–Jun 15, 2019	1093 (16.4%)	133	12.2%
Dec 1–Mar 14, 2019	2790 (41.9%)	234	8.4%
Mar 15–Jun 15, 2020	2774 (41.7%)	142	5.1%

analyzed using chi square analysis with significance set to $\alpha < 0.05$ to determine the relationship between time period and no-show frequency.

RESULTS

A total of 6657 appointments were scheduled at the TTUHSC ambulatory psychiatric clinic with n = 1093 in period one (control), n = 2790 in period two (before switching to telepsychiatry), and n = 2774 in period three (after switching to telepsychiatry). The no-show prevalence for period one, period two, and period three were 12.16%, 8.39%, and 5.12%, respectively. Chi square analysis demonstrated a significant relationship between time period and no-show prevalence ($p < 0.01$). A summary of the results can be found in Table 1.

DISCUSSION

Like many hospitals in United States, the TTUHSC outpatient psychiatry clinic began to offer telepsychiatry services in mid-March 2020 to minimize potential person-to-person viral transmission. Although not an explicit goal of the clinic at that time, we observed a decrease in no-show rate after switching to telepsychiatry. The no-show prevalence also decreased between periods one and two (12.16% vs 8.39%), possibly secondary to the influence of the global pandemic. Studies have suggested the pandemic exerted a significant mental health toll,⁹ which may have prompted a rise in appointment fulfillment. The data revealed a decreased rate between periods two and three (8.39% vs 5.12%), when we would expect the rate to remain relatively unchanged if it were solely due to the influence of COVID-19. This decrease in observed no-show frequency three months after

transitioning to telepsychiatry suggests using virtual visits may have increased patient visit compliance in a relatively short period of time.

The current literature provides some insight as to why no-show rates decreased during the three months of implementing telepsychiatry. Removing the necessity of travel for some patients can mean fewer work-days missed⁵ and decreased cost of travel, especially during rising fuel prices.^{5,8} Because a significant portion of patients seen at our psychiatric outpatient clinic are out-of-county and even out-of-state residents, reduced burdens of travel may have contributed to the study’s observed decrease in no-show rates. This becomes especially important during times of increase in fuel prices or states of emergency. Similarly, telepsychiatry visits may be more convenient for certain patients, such as the elderly, who suffer from multiple comorbidities and tend to account for a large proportion of rural populations.⁵ This is important for the TTUHSC psychiatry clinic to consider, as many patients we serve live in rural settings. In addition to minimizing the patient’s financial, physical, and time requirements, talking to a provider through a virtual medium may also ease the anxiety and fear of patients’ running into their peers and coworkers and risking being stigmatized for seeking psychiatric help.⁵ Telepsychiatry may offer an emotional safety net for apprehensive young patients, which may in turn lower the stress of the parents and guardians responsible for setting up appointments and facilitating attendance.¹⁰ This increased comfort afforded by the ability to hold visits in a preferred environment may have encouraged patients to be more willing to attend their virtual appointments, thereby minimizing no-show rates.

Telemedicine in general is, of course, not perfect. One of the most obvious potential difficulties with telepsychiatry stems from the necessity of relying on

modern technology to deliver patient care. Mental health providers may be reluctant to offer remote services because of their unfamiliarity of the equipment and software required to implement telepsychiatry.^{8,11} Patients may also have similar reservations,^{4,6} especially as reliable Internet services may not be widely available in some rural areas. In addition, the start-up costs of telepsychiatry can be a barrier to smaller community-based clinics that must purchase up to date equipment and compatible software and provide training to medical staff on the use of this technology.¹² HIPPA requirements can also increase barriers to establish telepsychiatry at various medical practices. In addition, Raveesh et al.¹³ discussed the possibility that providers intentionally or unintentionally coerce patients into using telepsychiatry over traditional in-person visits, assuming it is more convenient or profitable for the provider to treat patients virtually. Another concern of telepsychiatry is the question of how secure patient information truly is during telemedicine visits.^{4,6,13} Transparency is inevitably lost when neither the physician nor patient can confirm who else may be present during the virtual appointment, or when visual confirmation of a person's actions can be ascertained from only the mid-torso and up.¹³

LIMITATIONS

This study has definite limitations. During lockdown, televisits would avoid missed work for people working remotely at home. However, after lockdowns were relaxed, and people returned to work at the workplace, televisits would still theoretically require time off from work. Hence it would be helpful to see if improved no-show rates persisted after lockdowns were relaxed. It should also be noted that a patient can easily cancel a telehealth appointment last minute, which then counts as a cancellation and not a no-show, which then biases the no-show count. Prior to the telemedicine era, no-shows were counted only when the patient physically did not show up to the appointment prior to cancellation. Another limitation is the lack of data regarding the actual number of billable appointments that occurred, which would have been useful to include in the analyses.

CONCLUSION

This study suggests a possible benefit of continuing to provide telepsychiatry services at the TTUHSC outpatient psychiatry clinic as it fully resumes regular operations. Offering telemedicine options to patients may increase attendance compliance and significantly help the subset of rural patients who are disproportionately burdened by the nature of their location. The West Texas and bordering New Mexico regions have numerous small communities that may not have easy accessibility to mental health services that much larger, metropolitan areas have. It is our goal to better understand the unique burdens of these communities and adapt our psychiatric services to meet their needs. While the results of this study suggest telepsychiatry may promote appointment compliance in as little as three months, further evaluation and discussion must continue to assess the efficacy and logistics of incorporating a full-time telepsychiatry service. Expansion of access to mental health services should not come at the expense of patient privacy or quality of care. More studies of the potential costs and benefits of implementing telepsychiatry services are necessary to assess whether remote delivery of care is a viable solution to expand the accessibility of psychiatric services to a large area in West Texas and Eastern New Mexico.

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