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HOT TOPIC

Telepsychiatry for Patients with Post-traumatic Stress Disorder During the COVID-19 Outbreak

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Keywords Post-traumatic stress disorder (PTSD) · Coronavirus disease-19 (COVID-19) · Telepsychiatry · Patient–doctor relationship · Social distancing · Depression

Abstract

Purpose The novel coronavirus, SARS-CoV-2, emerged from Wuhan, China, causing a pandemic. Access to outpatient psychiatric care was limited. We conducted a pilot study of telepsychiatry during a national shutdown. Adult patients with post-traumatic stress disorder (PTSD) participated via Zoom. Patient preference comparing televisits to face-to-face visits was assessed.
Recent findings Telemedicine has emerged as new technological tool in the evolution of the patient-physician relationship, changing the way we interact. Physicians and patients now have access to the electronic medical record, remote point-of-care testing, and each other. The present epidemic allows us to test the limits of technology in combating limited access to care for patients with psychiatric illness.
Summary Twenty (90% male) patients with PTSD participated. Most (90 %) were moderately to severely depressed, and 50% used medical cannabis and increased their dosage during the study period. Patients preferred face-to-face meetings for its ease of use ($p < .01$) and general satisfaction from therapy ($p < .01$). However, given continued outbreak-limiting access to care, most patients stated they would continue with telepsychiatry. While most patients preferred face-to-face visits, telepsychiatry can be used during times

of outbreak-limiting access to care. Future research and development should be directed at improving technological ease of use.

Introduction

The novel coronavirus (SARS-CoV-2) that emerged from Wuhan, China, in December 2019, caused a global health emergency and transformed our daily lives. Patients infected with SARS-CoV-2 may develop serious coronavirus disease 2019 (COVID-19). However, uninfected vulnerable patients, such as those with post-traumatic stress disorder (PTSD), can be at greater risk of decompensation due to increased stress (e.g., from social isolation) and lack of access to care due to imposed shutdowns of clinical services [1]. The first case of COVID-19 in Israel occurred on February 21, 2020. The entire state was quickly affected, requiring the implementation of social distancing and stay-at-home orders. These social and public health policies allowed selected travel for necessary activities and personnel. Many social institutions as well as outpatient clinics were not accessible to the public. For those patients not needing or willing to come to their local hospital, telemedicine emerged as a possible solution. Selected psychiatric patients were offered this novel service. Research has shown that telepsychiatry is comparable to face-to-face services in terms of reliability of clinical assessments and treatment outcome [2]. It has also been shown that it delivers high patient satisfaction among those suffering with movement disorders such as Parkinson's disease [3•]. There have even been suggestions that it may be preferable to in-person interaction in a subset of patients, including those with severe anxiety disorders (American Psychiatric Association, 2020).

The present study investigated the use of telepsychiatry for the treatment of patients with long-term PTSD, during a period of a national shutdown in Israel due to the outbreak of COVID-19.

Methods

We conducted a pilot study using telepsychiatry for the care of patients with chronic PTSD. All patients were known to the psychiatry service at the Shaare Zedek Medical Center (SZMC), a 1000-bed-tertiary medical care facility in Jerusalem, Israel. Additional inclusion criteria were age greater than 18 years and no evidence of active COVID-19 during the study (e.g., the reported absence of recent fever, headache, respiratory symptoms, gastrointestinal symptoms, or loss of the sense of taste or smell). Patients were treated face-to-face for at least 6 months in our outpatient setting and during the study period used telepsychiatry for at least one session during the month of April 2020. During this period, there was a strict national lockdown, as this was a religious holiday period (i.e., for Jews, Christians, and Muslims), and there were increased concerns over large local gatherings for celebration. Citizens were required to stay within 100 meters of their homes, unless for necessary activities (e.g., urgent health issues and food shopping). The patients that participated in the study stayed home in compliance with lockdown legislation and visited their treating psychiatrist in the virtual tele-clinic via Zoom (approved by the Israeli Ministry of Health) API version 2.0.0. The sessions lasted 40 min, were conducted in Hebrew and consisted of cognitive behavioral therapy (CBT). All patients received informed consent and agreed to the televisit. The psychiatric treatment also consisted of follow-up visits. The patients responded to the questionnaire (PHQ-9 and the satisfaction score questionnaire) during the

actual visit. Two follow-up questions were asked 1 month after the televisit (the lockdown was still in effect, but legislation was less strict). The study was approved by our local Helsinki institutional review board (#0108-20-SZMC).

Data was extracted from the electronic medical record at SZMC. Baseline characteristics obtained included age, gender, address, disability status, and years since original diagnosis of PTSD, years in therapy for PTSD, psychiatric medication regimen, medical cannabis use, involvement in psychotherapy, and other relevant past medical history. Patient severity of depression was assessed using the Patient Health Questionnaire (PHQ-9) [4•]. The PHQ-9 is a depression module which scores each of the nine DSM-IV criteria as "0" (not at all) to "3" (nearly every day). It has been validated for use in primary care and can be used to monitor the severity of depression and response to treatment. The score is out of 27 points, with severity being rated as: 0–4 none, 5–9 mild, 10–14 moderate, 15–19 moderately severe, and 20–27 severe.

Patient preference was assessed using a questionnaire asking the patients to compare the televisit with their standard face-to-face visit. Patients were administered the questionnaire at the end of the visit by the treating psychiatrist. The questionnaire consisted of five questions, focusing on ease of use, feeling of engagement, feeling of support, satisfaction with the therapy, and the overall satisfaction with the encounter. The questions were scaled 1–5: 1, did not prefer at all; 2, a little less preferred; 3, no difference in preference; 4, a little more preferred; and 5, preferred. Two additional questions (i.e., yes or no) were administered 1 month after the televisit and addressed whether patients would consider trying another televisit during a national shutdown or instead of a face-to-face visit during non-outbreak conditions.

Continuous variables were expressed as mean ± standard deviation (SD). Categorical variables were presented as n and frequency (%). The Student *t*-test was used to compare the standard face-to-face visit and the telepsychiatry visit. A *P*-value of < 0.05 was considered statistically significant. Statistical analyses were performed using IBM SPSS statistical software version 21.0.

Results

Twenty patients were enrolled in the study and underwent a teletherapy session with their SZMC primary psychiatrist during the study period (Table 1). Most of the patients were male, Jerusalem residents, and fully disabled from their PTSD (i.e., receiving social security benefits). On average, patients were living approximately 20 years with PTSD and were under treatment for approximately 15 years. Second-generation anti-psychotics were the most prescribed medication for this group of patients. Approximately half of the patients were using medical cannabis, primarily via inhalation. At the time of the teletherapy session, patients using medical cannabis reported an average increase of one gram for the month of April. The majority of patients (65%) were in psychotherapy (cognitive behavioral therapy) at the time of this study. Diabetes was reported in 20% of the patients. The majority of patients (70%) had moderately severe or severe depression (Table 1). Patient preference for visit type can be seen in Table 2. Patients reported significant preference for face-to-face meetings with regard to ease of use, satisfaction from the therapy, and overall satisfaction from the encounter. However, significant differences in preference were not found for

Table 1. Baseline demographics and characteristics of patients (N = 20)

Age, years, mean (SD)	**48.2 (16.2)**
Gender, male, n (%)	19 (95)
Jerusalem, n (%)	13 (65)
Disabled, n (%)	20 (100)
Year of diagnosis, mean (SD)	18.9 (15.9)
Years in treatment, mean (SD)	14.3 (14.4)
Taking medication, n (%)	17 (85)
Second-generation anti-psychotics, n (%)	8 (40)
Benzodiazepines, n (%)	5 (25)
Hypnotics, n (%)	3 (15)
Antidepressants, n (%)	2 (10)
Cannabis, n (%)	9 (45)
Inhalation, n (%)	8 (40)
Oil, n (%)	1 (5)
Mean grams change in dosage (SD)	+1.1 (12.7)
Psychotherapy, n (%)	13 (65)
Diabetes, n (%)	4 (20)
Cerebrovascular accident, n (%)	1(5)
Myocardial infarction, n (%)	1(5)
Cancer, n (%)	2 (10)
Severity of depression	
PHQ*9 score, mean, (SD)	15.7 (3.6)
None, n (%)	0
Mild, n (%)	2 (10)
Moderate, n (%)	4 (20)
Moderately severe, n (%)	12 (60)
Severe, n (%)	2 (10)

PHQ-9, patient health questionnaire. SD, standard deviation.

feelings of patient–provider engagement or feeling supported. Fifteen patients would continue with telepsychiatry given the same outbreak-limiting access to

Table 2. Patient preference by setting

Question	Telepsychiatry	Face-to-Face	*P*-value
Ease of use	2.8 (1.7)	4.0 (1.2)	< .01
Feeling engaged	4.6 (0.6)	4.8 (0.5)	ns
Feeling of supportiveness	4.1 (1.1)	4.4 (1.0)	ns
Satisfaction of therapy	3.8 (1.1)	4.6 (0.7)	< .01
Overall satisfaction of encounter	3.9 (0.7)	4.4 (0.6)	< .05

Values are reported as mean (standard deviation). *NS*, non-significant

care, two were ambivalent, one would not continue, and two were unavailable for questioning. If standard face-to-face visits were re-established, 16 patients would prefer a face-to-face visit, one would continue with telepsychiatry, one was ambivalent, and two were unavailable for questioning.

Discussion

While telepsychiatry offers a solution to the problems posed by physical distancing measures during this pandemic, the suggestion of its benefit existed before the current crisis [5•]. Our study contributes to previous knowledge by beginning to focus on the subjective perspective of the patients using telepsychiatry, i.e., by measuring the individuals' feeling of support. The outbreak developed rapidly, and the imposed lockdown severely restricted access to medical care. Restrictions were even stricter during the study period, as it was a holiday period and there were heightened concerns for increased social gatherings. Therefore, we decided to extend this service to some of our sickest outpatients. All of these patients were rated disabled from their underlying PTSD and had spent years in treatment in our institution. While women are two to three times more likely to develop PTSD than men after adjusting for exposure to traumatic events [6], most of the participants in our study were male. This may be due to the small numbers in our study or the characteristics of our patient base. Most patients were being treated with medication, with almost half of them taking second-generation anti-psychotics. This may also be indicative of the severity of PTSD in our study group. For patients who have a poor or partial response to psychotherapy and do not want a trial of another trauma-focused psychotherapy, serotonergic reuptake inhibitors (SRI) are suggested. Only after these two modalities have been tried are patients then transitioned to a second-generation antipsychotic medication [7]. Despite the escalation of medical therapy, cognitive behavioral psychotherapy is usually continued, and over half of our patients were in therapy (CBT).

Almost half of our patients were using medical cannabis at the time of this study. While data is limited, some recent research has demonstrated that people suffering from PTSD report that cannabis reduces the severity of their symptoms by more than half [8•]. Conversely, there are higher rates of marijuana use among PTSD sufferers, as these patients are at an increased risk of substance use disorders [9]. These two points, along with the elevated stress from the outbreak, may explain the increase in the mean dosage of medical cannabis that we observed during this study. As expected in this demographic, some study participant had multiple medical problems, including type 2 diabetes [10]. There is growing evidence linking PTSD to insulin resistance and type 2 diabetes. Studies have proposed that PTSD could be a marker of hormonal and metabolic dysregulation, leading to insulin resistance and the increased risk of diabetes. While we did not capture data on glucose control during this time, future studies may want to assess the association with PTSD symptoms.

The PHQ-9 was used to assess the severity of patient depression. The PHQ-9 is reliable and valid, and its brevity makes it a useful clinical research tool. Consistent with study baseline characteristics and demographics, most of the patients in our study had moderate-to-severe depression. This not only predisposed them to decompensation during this period but may have biased

their response to the patient satisfaction questionnaire. However, despite the computer-based meeting platform, patients felt as connected to their therapist as with a standard face-to-face meeting. In essence, they felt that they received the support they needed, similar to a standard in-person session [11]. Where we believe the real challenge lies, regarding implementing this technical modality, is with ease of use [12]. Patients found it more difficult to utilize the technology during this study, which probably had the greatest impact on the overall satisfaction of the encounter. While patients did receive instructions on how to utilize this technology, we did not administer any pertaining or offer technical support. All patients were able to access and utilize the technology; however, connection rates and call quality were variable. It is understandable that these patients did not want any additional challenge at this time, including the stress that can accompany the introduction of new technology [13•, 14].

Recent literature has demonstrated that telepsychiatry does not negatively affect the therapeutic alliance in PTSD as it may improve access to care and reduce waiting and travel time for appointments [14]. Even with the technical challenges, most of our study patients were willing to try telepsychiatry again, even in lieu of a traditional in-person visit. Times are changing rapidly. The present epidemic has done major damage and is not showing signs of slowing in many parts of the world. Telehealth can be seen as more evolution than revolution [15]. We need to be able to provide our patients access to care, even under harsh conditions. While this is a small pilot study without a control group, our results are generalizable [16]. During the present pandemic, rates of psychiatric illness have increased [17•]. PTSD is even more common in North America, where the pandemic has continued on its devastating path.

Conclusion

Future studies should be large, global, and multi-center. More research is needed to improve the understanding of how technology may impact the patient–doctor relationship, clinical practice, and outcomes [18•, 19•]. As innovation diffusion progresses for telehealth initiatives, emphasis should be placed on technological ease of use to allow for quality access of care and connectivity for our psychiatric patients in order to improve satisfaction levels in patients as much as possible. Telepsychiatry is a viable alternative treatment and one we can utilize for our at-risk mentally disabled patients, as we continue to face uncertainty, mandatory lockdowns, a culture of social distancing, and isolation. An important task and a major challenge will be to focus and improve patient's subjective satisfaction with this kind of treatment.

Key Points

- Vulnerable patients, such as those with post-traumatic stress disorder (PTSD), can be at greater risk of decompensation during periods of increased stress.
- During the COVID-19 outbreak, implementation of social distancing and stay-at-home orders limited access to healthcare.
- Our pilot study used telepsychiatry for the maintenance care of patients with chronic PTSD during COVID-19 outbreak, evaluating preference of

treatment setting.
• Results show that patients significantly preferred face-to-face meetings but would consider telepsychiatry as a treatment option if lockdown conditions would continue.
• Tele health initiatives are viable alternatives that can be utilized for at-risk mentally disabled patients in crisis situation.

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Author contribution

We confirm that all authors of this paper have fulfilled the conditions of the *IJCP* regarding contribution to the concept, design, and drafting of the manuscript.

Declarations

Consent for publication
In addition, all authors have passed final approval on the manuscript that is currently being submitted. We declare that the manuscript has not been submitted or accepted for publication elsewhere, and we are not aware of any manuscripts that are related to the one we submit.

Conflict of interest
all the authors declare that they have no conflict of interest.

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19.• Zulfic Z, et al. Is telepsychiatry care a realistic option for community mental health services during the COVID-19 pandemic? Aust N Z J Psychiatry. 2020. https://doi.org/10.1177/0004867420937788 This article demonstrates that COVID-19 response should place an emphasis on patient education, social supports, and maintaining therapeutic adherence.

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