

ORIGINAL ARTICLE

Telepsychiatry services during COVID-19: A cross-sectional survey on the experiences and perspectives of young adults with first-episode psychosis

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Abstract

Introduction: Limited evidence exists on the implementation of telepsychiatry within the context of early intervention services for psychosis, the need for which has become even more relevant during the COVID-19 pandemic. To address this gap, we investigated the experiences and perspectives of young adults recovering from a first-episode psychosis (FEP) following their use of telepsychiatry services (i.e. use of video conferencing technology to deliver mental health services to patients in real time).

Methods: A cross-sectional online survey study was implemented between November 19th, 2020 and March 9th, 2021 with young adults recruited from a specialized program for FEP located in an urban Canadian setting. Data were analysed using descriptive statistics, exploratory (Fisher's exact test), and content analysis.

Results: Among 51 participants (mean age = 26.0, SD = 4.7; 56.9% female), the majority were satisfied with the service (91%, 46/51), perceived that the platform was easy to use (90%, 46/51) and felt secure in terms of confidentiality (82%, 42/51). Satisfaction was related to perceptions regarding ease of use, image quality, and employment/studying status. Several partially or totally agreed that the presence of a third party was essential to login during the first few sessions (35%, 18/51), and some needed technical support (24%, 12/51) throughout the sessions.

Conclusions: This study shows that telepsychiatry is feasible and acceptable to implement for patients in the early phase of psychosis recovery. It also highlights the importance of making technical support available, especially in the first few times of using the service, and addressing patient concerns regarding confidentiality, even when using secured health technologies.

KEYWORDS

digital health, information and communication technologies, mental health services, mhealth, telemedicine

1 | INTRODUCTION

Young adults receiving treatment for a first-episode psychosis (FEP) face many obstacles in attending clinical appointments, including for example, anxiety, scheduling difficulties, limited access to public transportation, physical limitations, and trouble locating in-person

appointments (Lal et al., 2020). The implementation of physical distancing guidelines due to COVID-19 has further complicated accessing follow-up care, increasing the risk for service disengagement. Service disengagement among individuals with FEP can lead to relapse and hospitalization, impacting clinical outcomes, such as social, vocational, and interpersonal functioning (Dixon et al., 2016).

Leveraging the use of technology has been advocated to optimize the engagement of individuals receiving treatment for psychosis (Dixon et al., 2016; Lal & Malla, 2015). Research conducted prior to COVID-19 demonstrates that the majority of young adults recovering from a FEP own and use mobile devices and/or computers (Abdel-Baki et al., 2017; Lal, Dell'Elce, & Malla, 2015) and access the internet daily (Lal et al., 2020). Research also indicates that youth with FEP are interested in using technology for receiving mental health services (Lal, Dell'Elce, Tucci, et al., 2015). Telepsychiatry (or telemental health, or teleconsultation), which involves video conferencing solutions to facilitate communication between patients and mental health providers in real time, is one such approach to leveraging technology (Lal et al., 2020; Shore, 2013).

Randomized control trials have shown comparable reliability and outcomes among individuals receiving telepsychiatry versus in-person services (Hubley et al., 2016). However, recent reviews have found limited evidence on telepsychiatry use with patients in the early phase of psychosis recovery (Santesteban-Echarri et al., 2020) and few studies on the implementation of digital interventions for patients with psychosis (Aref-Adib et al., 2019; Camacho et al., 2019). Such research is needed given service providers' concerns of using telepsychiatry for patients with symptoms of psychosis (e.g. paranoia) (Cruz et al., 2021).

Concurrently, we know from research conducted with patients receiving treatment for a FEP, almost half (49%) are very favourable and 25% are somewhat favourable towards the *idea* of using videoconferencing to communicate with their treatment team (Lal et al., 2020). However, little is known about the *actual* experiences of receiving telepsychiatry services from the perspectives of young adults recovering from a FEP.

We conducted a study to evaluate the feasibility and acceptability of delivering telepsychiatry services to young adults receiving early intervention services (EIS) for psychosis in an urban Canadian setting. The telepsychiatry services were provided by a range of mental health care professionals, including psychiatrists and case managers. We report on patient perceptions of telepsychiatry in terms of its satisfaction, user-friendliness, benefits, concerns, challenges, security, safety, and recommendations. We hypothesized that FEP patients will be satisfied with telepsychiatry services, and that satisfaction may be influenced by technical aspects (e.g. sound and video quality), as well as individual factors (e.g. technological familiarity; Boydell et al., 2014; Elford et al., 2001; Holden & Karsh, 2010). Additionally, we explored the comparisons of sociodemographic factors (e.g. employment/studying status, education level, etc.) with FEP patients' perceptions of telepsychiatry.

2 | METHODS

2.1 | Study setting and service implementation

This study was implemented at the Centre Hospitalier de l'Université de Montréal (CHUM), and received approval from the hospital's scientific and ethics review board (#17.073). The project was implemented

in collaboration with the hospital's Telehealth Coordinating Centre and mental health clinicians of the EIS for psychosis: Clinique JAP—Jeunes Adultes Psychotiques, which also includes a sub-team EQIIP SOL—Équipe d'Intervention Intensive de Proximité, focused on delivering EIS to youth experiencing concurrent FEP, substance use disorder and housing instability/homelessness. At the time of project implementation, the Clinique JAP provided 3 years of EIS to approximately 300 young adults aged 18–30 years old at the time of admission, including about 45 patients receiving services from the sub-team EQIIP SOL.

Telepsychiatry service planning was initiated in 2016 by a multidisciplinary team of clinicians, researchers, and the hospital's telehealth specialist. At that time, the videoconferencing platform REACTS (<https://reacts.com>) was the only telehealth platform approved by the hospital and accessible via computers and mobile devices. Once a detailed telepsychiatry implementation protocol was developed and approved by ethics on July 4th, 2017, the hospital's telehealth specialist provided the clinical team with demonstrations on how to use the virtual platform and how to access the user accounts. Two iterations of a practical guide were also produced to supplement the demonstrations; however, the demonstrations and the guide did not translate to adoption of the telepsychiatry service. Factors contributing to limited use at that time included: some patients experiencing difficulty downloading an app into their phone; need for immediate technical support for both patients and clinicians that was not always available; and limited access to wi-fi and insufficient data plans.

In 2020, a new version of the platform was released such that patients were no longer required to download an app into their phone. Training sessions on how to use the platform were re-offered, this time in an individual format, by the telehealth specialist and one 'champion' clinician of the EIS team already familiar with the platform. Moreover, 2 additional 'champion' users (i.e. clinicians interested in technology solutions or open to new ways of improving service accessibility) were available to assist team members during their first use of the platform (e.g. to support the connection process and/or provide rapid troubleshooting responses). With these initial events in place, when the COVID-19 pandemic and the public health measures such as physical distancing were implemented (mid-March 2020, in Quebec, Canada), all the EIS staff felt comfortable using the REACTS platform which led to its rapid adoption.

2.2 | Study design and recruitment

This study used a cross-sectional survey design and a convenience sampling method. Initially, case managers (or psychiatrists) sent a weblink to an anonymous online questionnaire to eligible FEP patients that attended appointments via telepsychiatry. However, service providers experienced challenges (e.g. technical, competing priorities, etc.) in sending the link to all eligible patients; thus, out of approximately 300 individuals receiving EIS for psychosis at the recruitment site, a message with the weblink included was sent to 106 patients through the videoconferencing platform. All patients recruited had

received telepsychiatry services delivered via a secure videoconferencing platform and were judged to be clinically stable by the treatment team. Participants were offered a gift card (\$15 CAD) for completing the survey.

2.3 | Data collection

Surveys were submitted between November 19th, 2020 and March 9th, 2021. The online questionnaire, entitled: 'Experiences of Receiving Telepsychiatry Services Questionnaire – Patient Perspectives' was created and managed using Research Electronic Data Capture (REDCap) and consisted of 27 close-ended and 2 open-ended questions. The questionnaire was adapted from previous EIS for psychosis research, which aimed to better understand access and use of technology and preferences of using technology for mental health services (Lal, Dell'Elce, & Malla, 2015; Lal, Dell'Elce, Tucci, et al., 2015), including telepsychiatry (Lal et al., 2020), among youth with FEP. The questionnaire has several sections: 1) sociodemographic characteristics; 2) general access and use of technology and its use when communicating with the treatment team, and levels of satisfaction with the aforementioned communication methods; 3) obstacles to attending clinic appointments; and 4) experiences and perceptions of telepsychiatry services. The questionnaire was originally developed based on factors influencing perceived usefulness and intentions to use technology (Holden & Karsh, 2010). The questionnaire items were revised through discussions with clinicians (physician and non-physician) who are working with young adult patients with FEP, as well as research team members to better evaluate telepsychiatry service delivery. Further, inputs from additional service providers and young adult patients were used to assess the comprehensibility, relevance, and duration of the questionnaire.

2.4 | Data analysis

Data were analysed using SPSS and R. Descriptive statistics (i.e. mean, standard deviation, frequencies, percentages) were used to summarize questionnaire responses. As shown in Supporting Information, Tables S1–S4, we also conducted the Fisher's exact test (due to our small sample size and expected frequencies of <5 in some cells) to explore the associations between sociodemographic characteristics and patients' experiences and perceptions of telepsychiatry services at the .05 *p*-value level (two-tailed test). Content analysis was used to synthesize patients' general comments about the telepsychiatry services.

3 | RESULTS

3.1 | Participants

A total of 56 responses were submitted by participants, from which five were excluded due to duplicate submissions (only initial responses were kept). A final sample of 51 responses was analysed.

The sample mean age was 26.0 (*SD* = 4.7; age range 18–36), of which 57% (29/51) identified as female; and 63% (32/51) were college or university educated. The majority (82%, 42/51) had received EIS for psychosis for 1 year or more. Table 1 details the participants' sociodemographic characteristics.

3.2 | Access and use of technology

As illustrated in Table 1, the majority of the sample (88%, 45/51) had a smartphone and most (61%, 31/51) had a personal laptop computer. The majority (94%, 48/51) had daily access to the internet and accessed the internet via a home internet plan (88%, 45/51); more than a third (37%, 19/51) had a cellular data plan. Supporting Information Table S1 shows details regarding differences in access and use of technology among participants with different sociodemographic characteristics. For example, female participants were more likely than male participants to use smartphones (*p* = .034), male participants were more likely than female participants to use cell phones with no internet connection (*p* = .011). Furthermore, participants who lived in independent housing (including living alone or with roommates) were more likely to use personal laptop computers compared to those in group homes or supervised housing (*p* < .001). Level of education and main activity were not associated with the type of technology device used.

Supporting Information Figure S1 provides frequency information of different methods used to communicate with the treatment team in the past year. When asked about the extent to which participants were satisfied with the communication methods (1 = not at all satisfied, 10 = absolutely satisfied), 84% (43/51) indicated high satisfaction, scoring in the range of 8–10.

3.3 | Obstacles to attending clinic appointments

In terms of obstacles to attending clinic appointments in person, 51% (26/51) of participants identified one obstacle, and 18% (9/51) identified two or more. Almost a third of participants (29%, 15/51) did not report any obstacle. Table 1 shows that obstacles included: anxiety (20%, 10/51), school/work scheduling (12%, 6/51), financial (10%, 5/51), and other (20%, 10/51). Supporting Information Table S2 shows differences in perceived obstacles in relation to sociodemographic characteristics. For example, participants with a higher level of education (*p* = .040) or those living independently (*p* = .042) were more likely to indicate no particular difficulties but wanting to respect physical distancing measures in the context of the COVID-19 pandemic. Participants living in group homes or supervised housing were more likely to report financial difficulties pertaining to transportation (*p* = .029).

3.4 | Use of telepsychiatry services

Table 2 provides details on the use of telepsychiatry services in terms of frequency, device, location and purpose. For example, most

TABLE 1 Sociodemographic characteristics

Sociodemographic characteristic	N	%	Access and use of technology	N	%
Sex			Access to which technological devices ^b		
Female	29	57%	Smartphone	45	88%
Male	22	43%	Personal laptop computer	31	61%
Level of education—highest level reached			Personal desktop computer	11	22%
College/University	32	63%	Cell phone with no internet connection	5	10%
High school diploma/Vocational studies	12	24%	iPad/tablet	4	8%
Primary school/High school incomplete	6	12%	Other ('Laptop/desktop computer belonging to others'; 'PlayStation 3'; 'back up computer')	2	4%
Prefer not to answer	1	2%	Access to the internet?		
Current living situation ^a			Every day	48	94%
Independent housing	25	49%	Irregular access	3	6%
With family	14	27%	How do you access the internet? ^b		
Group homes/Supervised housing	8	16%	Home internet plan	45	88%
Other (mixed)	1	2%	Cell phone plan	19	37%
Prefer not to answer	3	6%	Community (e.g. in cafés, at school/work, etc.)	8	16%
Living situation changed since COVID-19?			Internet plan of someone close	5	10%
No	40	78%	Obstacles to attending clinic appointments ^b	N	%
Yes	7	14%	COVID-19 distancing guidelines ^c	24	47%
Prefer not to answer	4	8%	No difficulties	15	29%
Current situation/main activity			Anxiety	10	20%
Employment and/or studying ^d	34	67%	School/work scheduling	6	12%
Unemployment/not studying	10	20%	Financial	5	10%
Volunteering/other ('musician'; 'self-employed'; mixed)	4	8%	Other ('Lack of motivation'; 'Transportation', etc.)	10	20%
I prefer not to answer	3	6%	Prefer not to answer	1	2%
Situation/main activity changed since COVID-19?					
No	32	63%			
Yes	13	25%			
Prefer not to answer	6	12%			
Primary situation/activity before COVID-19 ^e					
Employment and/or studying	11	22%			
Other ('walking', 'seeing my family')	2	4%			
Duration of receiving early intervention services for psychosis at the time of study participation					
Less than 1 year	9	18%			
1 to 2 years	21	41%			
3 years or more	21	41%			

Notes: Mean age (SD) = 26.0 (4.7); range = 18–36—The mean age (including standard deviation and range) was calculated from a sample of 50 participants, given that 1 participant provided unclear age information.

^aN = 51—Out of the 51 participants recruited from Clinique Jeunes Adultes Psychotiques(JAP), 1 participant was receiving services from the sub-team Équipe d'Intervention Intensive de Proximité (EQIIP SOL).

^bMore than one response possible.

^cNo particular difficulties but want to respect physical distancing measures in the context of the COVID-19 pandemic.

^dStudent [part-time: 6, full-time: 13]; Employed [part-time: 4, full-time: 7].

^eThe question was only answered by 13 participants.

(74%, 37/50) used the videoconferencing platform 5 times or more; the majority reported using their own devices to connect to the platform (90%, 46/51), particularly through a smartphone (67%, 34/51); and most accessed the telepsychiatry services in their home

(84%, 43/51). The majority reported the purpose of using the platform was to schedule clinical follow-ups (84%, 43/51), and 51% (26/51) reported it was to schedule appointments for adjusting medication.

TABLE 2 Frequency, devices, location, purpose of telepsychiatry services ($N = 51$)

Question	N	%
<i>Frequency of telepsychiatry services received through the REACTS platform^a</i>		
5 times or more	37	74%
4 times or less	12	24%
Prefer not to answer	1	2%
<i>Did the frequency of telepsychiatry services received through REACTS increase since the onset of the COVID-19 pandemic?</i>		
Yes	36	71%
No	13	25%
Prefer not to answer	2	4%
<i>Ownership of the device used to access telepsychiatry services</i>		
Personal	46	90%
Other ('A friend's'; 'A family member's'; 'Provided by the treatment team or residential setting'; mixed responses including 'a friend's computer and participant's personal cell phone')	5	10%
<i>Location of accessing telepsychiatry services (more than one response possible)</i>		
In my home	43	84%
In the housing resource where I live	8	16%
Community (e.g. at work, in cafés, on the streets, while walking, at the hospital, etc.)	8	16%
At home of someone close	6	12%
<i>Device used to access telepsychiatry services (More than one response possible)</i>		
Smartphone	34	67%
Personal laptop computer	28	55%
Personal desktop computer or iPad/Tablet	11	22%
<i>Main services received using the REACTS platform (more than one response possible)</i>		
Follow-up meeting on health condition	43	84%
Adjustment of medication	26	51%
Individual psychotherapy	14	27%
Employment or study-related	13	25%
Follow-up meeting with member of treatment team in the presence of family	13	25%
Follow-up meeting with member of treatment team and school representative/your employer	9	18%
Follow-up meeting with member of treatment team and housing representative	5	10%
Other ('Group psychotherapy'; 'Family or couple psychotherapy'; 'meeting with my treatment team'; 'administrative procedure')	4	8%
I prefer not to answer	1	2%

Abbreviations: CHUM, Centre Hospitalier de l'Université de Montréal.
^aPercentage was calculated by dividing the number of participants for each frequency response by a sample of 50 participants, given that 1 participant provided unclear frequency information.

3.5 | Experiences and perceptions of telepsychiatry services

3.5.1 | Technical aspects

The majority of participants partially or totally agreed that the platform was easy to use (90%, 46/51), that the sound and image quality was adequate (88%, 45/51), and that they felt secure when using the platform (82%, 42/51; Table 3). Most (61%, 31/51) reported that third party assistance to log in for the first few times was not essential, whereas 24% (12/51) required assistance to start a session or to solve technical problems, among which the majority requested assistance from a professional/treatment team member (92%, 11/12).

Supporting Information Table S3 reports that female participants were more likely to ask for help with technical issues compared to male participants ($p = .045$). Participants living in a group home or supervised housing were more likely to indicate that for the first few times, the presence of technical support to log in was essential compared to those living with family or in independent housing ($p = .001$).

3.5.2 | Satisfaction

As illustrated in Table 4, the majority were satisfied with the telepsychiatry services (91%, 46/51) and agreed or partially agreed that it had a positive impact on the continuity of their clinical care (92%, 47/51). Most (76%, 39/51) indicated they would recommend the videoconferencing platform. The majority (84%, 43/51) reported being very or somewhat favourable towards continuing to use the telepsychiatry services. For those who responded as unfavourable (14%, 7/51) towards continuing to use the services, reasons varied from a preference towards other formats of consultations such as in-person and through telephone, in case in-person is not possible (12%, 6/51), and a preference against or issues accessing technology, including dislike of using technology and preferring a more user-friendly platform (8%, 4/51).

Supporting Information Table S4 illustrates that participants who were employed and/or studying were more likely to report being very satisfied with the telepsychiatry services compared to those unemployed or not studying, or volunteering/other ($p = .025$). However, main activity differences were unrelated to interest in continuing the service. Additionally, participants who perceived the platform as easy to use ($p = .007$) and perceived the image quality as adequate ($p = .003$) were more likely to report being very satisfied; however, these perceptions were also unrelated to interest in continuing the services. No differences in overall satisfaction or interest in continuing the services were found among participants with different sex, education, living situation, frequency of telepsychiatry use, and sound quality perceptions.

Of the 51 participants, 16 responded to the open-ended question on whether they had any other comments regarding the use of REACTS platform. Responses were organized into 29 separate

TABLE 3 Perceptions regarding the technical aspects of telepsychiatry services (N = 51)

Close-ended question	N	%
<i>In general, REACTS was EASY to use</i>		
Totally/Partially disagree	5	10%
Totally/Partially agree	46	90%
<i>The quality of the IMAGE was adequate</i>		
Totally/Partially disagree	6	12%
Totally/Partially agree	45	88%
<i>The quality of the SOUND was adequate</i>		
Totally/Partially disagree	6	12%
Totally/Partially agree	45	88%
<i>I felt SECURE when using REACTS (confidentiality, etc.)</i>		
Totally/Partially disagree	9	18%
Totally/Partially agree	42	82%
<i>For the first few times, the presence of a third party to log in was essential or important</i>		
Totally/Partially disagree	31	61%
Totally/Partially agree	18	35%
I prefer not to answer	2	4%
<i>During the teleconsultations, did you ask for help from a professional/member of the treatment team, family member or friend to start a session or to solve technical problems?</i>		
No	38	75%
Yes	12	24%
Professional/treatment team	11	22%
Family member/friend	1	2%
I prefer not to answer	1	2%
<i>For the first few times, the presence of a third party throughout the consultation was essential or important</i>		
Totally/Partially disagree	40	78%
Totally/Partially agree	9	18%
I prefer not to answer	2	4%
<i>For what reason(s) did you receive TECHNICAL ASSISTANCE from a professional/member of the treatment team, family member or friend? (more than one response possible)^a</i>		
Sound/camera/video problems	7	14%
To start a session	5	10%
Internet connection problems	4	8%
Other ('To end a session'; 'password forgotten frequently'; 'To connect devices [cables, microphones, etc.]')	3	6%

^aThe question was only answered by 12 participants who reported that they asked for help from others to solve technical problems during the teleconsultations.

comments, from which seven were removed and coded as miscellaneous (i.e. content unrelated to the project or unintelligible). Table 5 provides details on 22 included comments, which were categorized into concerns and recommendations, positive perceptions, and questions. More than half of comments (59%, 13/22) pertained to

TABLE 4 Perceptions on the use of telepsychiatry services (N = 51)

Close-ended question	N	%
<i>Would you recommend REACTS to your friends?</i>		
Yes	39	76%
No	4	8%
I prefer not to answer	8	16%
<i>Generally, to what extent are you SATISFIED with the CONSULTATIONS offered through the REACTS platform? (1 = absolutely not satisfied and 10 = absolutely satisfied)</i>		
Very satisfied (8 or more)	34	67%
Moderately satisfied (6 or 7)	12	24%
Neutral/unsatisfied (5 or less)	5	10%
<i>To what extent are you favourable towards continuing to receive telepsychiatry services via the REACTS platform with the JAP/SOL team as part of your follow-up?</i>		
Very/Somewhat favourable	43	84%
Very/Somewhat unfavourable	7	14%
I prefer not to answer	1	2%
<i>Reasons for not being favourable towards continuing to receive telepsychiatry services via videoconferencing? (More than one response possible)^a</i>		
Preference towards other formats such as in-person consultations and telephone consultations if in-person is not possible	6	12%
Preference against or issues accessing technology ('I have difficulty in getting technology or computer applications to work'; 'I do not like to use technology'; 'I prefer other platforms that are more user-friendly')	4	8%
I prefer not to answer	1	2%
<i>The availability of the REACTS platform has had a positive impact on the continuity of my clinical care</i>		
Totally/Partially agree	47	92%
Totally/Partially disagree	3	6%
I prefer not to answer	1	2%
<i>In your opinion, a videoconferencing tool such as REACTS SHOULD BE USED: (more than one response possible)</i>		
To avoid having to travel to the hospital	31	61%
To facilitate/increase access to care	27	53%
As a last resort when in-person meetings are impossible	24	47%
In the case of unexpected events or in an emergency	23	45%
To replace in-person meetings	14	27%
Other ('useful to protect yourself from COVID-19')	1	2%
I prefer not to answer	1	2%

Abbreviations: JAP, Jeunes Adultes Psychotiques; SOL, Équipe d'Intervention Intensive de Proximité.

^aThe question was only answered by seven participants who were very or somewhat unfavourable to continue to receive telepsychiatry services via the REACTS platform.

concerns and recommendations, particularly related to technical issues. Two comments involved privacy concerns, one related to

TABLE 5 Concerns and recommendations, positive perceptions and questions regarding the telepsychiatry service

Category ^a	Sub-category	Comments ^b	n ^d
Concerns regarding the telepsychiatry service and recommendations to improve it	<i>Issues with connectivity and starting a session (technical)</i>	-The connection issues are a bit disturbing. [Participant 49] -Sometimes it takes a long time to start. [Participant 4] ^c	2
	<i>Issues with sound (technical)</i>	-I had recurring technical difficulties with REACTS with my psychotherapist (we sometimes had to call each other on the phone for audio but see each other via REACTS). [Participant 14] ^c	1
	<i>Issues with devices used (technical)</i>	-The only problem is that on my computer, the sound does not work. [Participant 41] ^c -But I think I have viruses on my computer.[Participant 11] ^c	2
	<i>Recommendations (technical)</i>	-Add more options. [Participant 1] -It would be nice if the application remembered my password. [Participant 18] -My only comment is the bug that logs you out after some time, it serves you better if it does not log you out. [Participant 29]	3
	<i>Preference for other platforms (technical)</i>	-I prefer the Zoom platform, which I use for my consultations in Douglas. [Participant 14] ^c -The software that is used now is difficult, cumbersome, with a poor user experience. There are plenty of other software that do the job much better and maybe cheaper.[Participant 31]	2
	<i>Privacy of communication (individual)</i>	-Reacts is stressful in that my apartment is visible on camera. My mental health issues make cleaning and hygiene difficult, and it's embarrassing to show it. Also, my walls are thin, so my neighbours can probably hear me, which makes clinic counselling preferable. [Participant 9] -I already had the impression that screenshots were being taken during my meeting. [Participant 11]	2
	<i>Financial (individual)</i>	-It consumes a lot of my phone bill.[Participant 4] ^c	1
Positive perceptions	<i>Technical</i>	-This is a good application. [Participant 3] -When everything works well, it's great. [Participant 17] -It works very well. [Participant 34] -The app is easy to use. [Participant 41] ^c -Very good, useful, and easy-to-use application. [Participant 46]	5
	<i>Impact on stress management</i>	-Teleconsultation has helped me manage my schedule and reduce my stress. [Participant 14] ^c	1
	<i>General utility</i>	-The application is practical in order to continue to have follow-ups despite a physical distance (e.g.: psychotic crisis outside of Montreal), or circumstances, such as COVID, preventing consultation in the clinic. [Participant 39] ^c	1
	<i>Importance of hybrid approach post-COVID</i>	-On the other hand, nothing compares to the physical presence of an intervener or a psychiatrist on the unit for follow-up, especially during a crisis. Thus, even after the COVID, I could see myself alternating between remote follow-up meetings with the REACTS application and in person (or even the majority of meetings with my counsellors/psychiatrists remotely) during periods of stability. On the other hand, it is necessary to maintain face-to-face meetings during crisis periods and until the patient has stabilized. [Participant 39] ^c	1
Questions about the telepsychiatry service	<i>Platform</i>	-I have questions about the platform.[Participant 45]	1

^aWe also had a category for 'other' in which we included 7 miscellaneous comments that were either unrelated to providing an opinion on the telepsychiatry service or un-intelligible or simply to indicate that the participant had no comments (e.g. 'Hshshs', 'None').

^bWe translated participants' comments (originally written in French) into English, first by a fluent English speaker (A3) using DeepL, followed by validation by a native French speaker (lab member), and final validation by the project lead (A1) who is a native English speaker, fluent in French.

^cThe open-ended responses provided by five participants were split into multiple comments and then analysed.

^dn = Frequency.

feeling that screenshots were being taken and the other feeling embarrassed to show the condition of their home environment. Several comments (36%, 8/22) pertained to positive perceptions and impacts, mostly related to technical aspects of the platform (e.g. its ease of use).

4 | DISCUSSION

Our findings support the feasibility and acceptability of using telepsychiatry with individuals being treated for FEP. Although the number of services delivered varied throughout the COVID-19 pandemic due to changes in public health physical distancing guidelines, approximately a third of services were delivered via telepsychiatry, or via phone, or in-person during the implementation of this study. A small percentage (i.e. ranging from approximately 1% to 5%) of services involved outreach visits to the community. In-person appointments were mainly due to the need for follow-up regarding medication (e.g. injectables, clozapine follow-up), clinical instability, or lack of access to the technology needed to participate in telepsychiatry services.

As predicted, most patients were very satisfied and expressed willingness to continue receiving telepsychiatry services. The majority perceived the videoconferencing platform as easy to use, secure, and confidential. The implementation process for telepsychiatry in this clinical program (including training and support provided to clinicians and patients) began gradually over several years prior to the COVID-19 pandemic; as such, this may have contributed to the satisfaction and perceptions regarding ease of use.

Our analysis indicates that satisfaction was related to perceptions regarding ease of use, image quality, and employment/studying status. The importance of ease of use and confidentiality/privacy have also been highlighted in previous research with FEP patients (Aref-Adib et al., 2019). Current findings also emphasize the need for technical assistance for all patients, particularly when first becoming familiar with telepsychiatry services. In addition, this study supports the importance for individuals living in group homes or supported housing settings to have access to telepsychiatry services and technical support during and after the COVID-19 pandemic.

It is noteworthy that some participants did not feel that the platform was confidential. Concerns regarding confidentiality and privacy reported in this study are also echoed in recent literature regarding factors influencing uptake of remote therapy in patients with psychosis (Watson et al., 2021). These concerns may be due to reasonable fears about the security of the internet and the video conferencing technology, and/or due to the nature of psychosis symptoms. While a review conducted by Santesteban-Echarri et al. (2020) found limited evidence to support the notion that delusional thinking interferes with patient acceptance of telepsychiatry, recent studies indicate otherwise. For example, one study found that voices and unusual experiences or beliefs accounted for 37% of the reasons that patients with psychosis declined remote therapy during the COVID-19 pandemic (Watson et al., 2021). Similarly, clinicians working with

patients that experience delusional thinking also expressed concerns about using telepsychiatry with this clinical population (Cruz et al., 2021). Cumulatively, these findings indicate the importance for developing informational and communication strategies that address privacy, security, and confidentiality for both clinicians and patients. Further research is essential to disentangle factors contributing to confidentiality, privacy, and security fears pertaining to the use of digital health interventions with patients that have psychosis.

Research has shown that patients with severe mental health problems have concerns regarding the accessibility of digital health interventions such as not having access to technology or not having basic digital literacy skills (Berry et al., 2019). Indeed, in this study, only a little over a third of participants had access to a cellular data plan (keeping in mind that the cost of data plans in Canada are considerably more expensive than in other countries, with unlimited data plans still being a relatively new option for consumers), which may have affected their use of telepsychiatry services outside of the home. Although access to WiFi is becoming increasingly available in the communities of Canada, for example, via schools, work settings, community organizations, libraries, and other public settings, several factors may limit the usefulness of this access, for example: quality (stability) of the internet connection; physical distancing guidelines during the COVID-19 pandemic context; and, security of the internet connection. In other countries, such as the United Kingdom, financial limitations in being able to pay for internet access and lack of technology also play a role in explaining why some patients with psychosis do not participate in remote treatment (Watson et al., 2021).

Measuring patient acceptability of digital health interventions is complex; it encompasses uptake of the intervention itself, but also includes participant satisfaction ratings, experiences and perceptions (Berry et al., 2016). To our knowledge, this study is among the first to comprehensively evaluate the feasibility and acceptability of telepsychiatry services based on FEP patient experiences and perceptions in an urban setting, and in the context of the COVID-19 pandemic. Our study extends previous research on acceptability regarding the hypothetical use of telepsychiatry (Lal et al., 2020) by detailing the adoption of and satisfaction with telepsychiatry services. Moreover, our study provides promising results that are aligned with previous reviews examining the feasibility and acceptability of a range of digital mental health interventions for patients experiencing severe mental health problems (Berry et al., 2016), such as psychosis (Alvarez-Jimenez et al., 2014).

This study can inform EIS clinical leaders on implementing and scaling up telepsychiatry services during and post-COVID-19, especially in relation to the importance and timing of technical support as well as confidentiality and privacy informational strategies. This study's limitations include: 1) small sample size, given the specific program from which the data is being collected and the limited available target population; 2) survey validity and reliability constraints related to adapting an existing data collection instrument; and 3) sampling method constraints associated with convenience sampling is unlikely to result in a representative sample. However, convenience sampling is an acceptable methodology when target populations are limited,

vulnerable and transient, or when time frame and human resources are limited. Compared to the clinic's population at 2 years follow-up, our sample consisted of fewer males (i.e. 43% vs. 74%) and fewer individuals employed or studying (i.e. 37% vs. 67%) (Lévesque & Abdel-Baki, 2020). On the other hand, the clinic's population and our sample characteristics were comparable on both independent living status and mean age (Lévesque & Abdel-Baki, 2020).

Given the context of this study, the generalizability of these results may be limited to similar psychiatric outpatient teams and clinics operating in urban settings within developed countries. Moreover, our sample may not be representative. For example, among approximately 300 individuals receiving EIS for psychosis at the recruitment site, only 106 received telepsychiatry services at the time of data collection, and among these, about half ($n = 51$) participated in the survey, including one participant that was receiving services from the sub-team specializing in homeless youth with psychosis. Limited participation of the homeless group may be due to the challenges associated with providing telepsychiatry services to this group, who often lack access to cellular data plans or high-quality WiFi connections; they may only be able to use poor-quality WiFi connections in community centres. Moreover, a higher proportion of individuals in this group have community treatment orders and are prescribed long-acting injectable antipsychotic medications (Lévesque & Abdel-Baki, 2020), which require many of their appointments to be in person.

5 | CONCLUSIONS

Telepsychiatry has experienced a large uptake by the mental health care system during the COVID-19 pandemic. However, limited attention has been given to its uptake and receptivity by individuals with psychosis. This study provides evidence for the feasibility, adoption, and acceptability of telepsychiatry as part of EIS for psychosis in an urban context and during the COVID-19 pandemic. Most participants reported positive perceptions regarding technical aspects of telepsychiatry services, were highly satisfied with these services, and expressed interest in continuing to receive these services. Additionally, results highlighted the importance of considering patient sociodemographic characteristics (i.e. sex, level of education, living situation, and main activity), specific technical support needs, and privacy and confidentiality concerns, to improve overall satisfaction and success of the services delivered.

Future research is recommended to examine the acceptability of telepsychiatry services in EIS programs among patients with varying illness severity and sociodemographic characteristics, across other telehealth platforms, and different geographical settings. Similar research from the perspectives of service providers is needed. Moreover, further research incorporating both patient and provider perspectives is needed to provide more in-depth understanding on factors contributing to the fears of using telepsychiatry services, how best to address them, and how to sustain the use of telepsychiatry services during and after the COVID-19 pandemic.

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CONFLICT OF INTEREST

Shalini Lal has received an investigator-initiated, digital health operational research grant from Hoffman-La Roche, unrelated to this study. The other authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are not publicly available due to their containing information that could compromise the privacy of research participants.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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