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REVIEW ARTICLE

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Patients' and providers' evaluations of telepsychiatry and future directions: A literature review of mixed research methods

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Abstract

Regarding the use of telemedicine after the COVID-19 pandemic, there has been little consideration of the patient's perspective. In this review, we aimed to examine the future direction of telemedicine by reviewing the literature that evaluated telemedicine from a patient-centered perspective and providers' perspective using a mixed research method. A search of studies containing keywords related to "telemedicine," "patient satisfaction," and "patient perspective" was conducted using MEDLINE from January 2014 to August 2024. The study was conducted using a mixed research method. Eleven articles were extracted, including studies that used combined evaluation by healthcare providers. The method of integration of quantitative and qualitative studies included eight convergent designs and three explanatory sequential designs. In quantitative surveys, patients' evaluations of telepsychiatry were generally favorable, with the main advantages being convenience and access. In qualitative surveys, heterogeneity in results was observed depending on patients' conditions and social factors, such as the presence of chronic diseases and stigma, while difficulties in symptom assessment were cited by healthcare providers. The continuation of telepsychiatry after a pandemic requires collecting detailed opinions of patients using mixed research methods, qualitative surveys, and evaluation and improvement through controlled studies and studies using large, diverse samples.

KEYWORDS
mixed research methods, patient experience, patient satisfaction, stigma, telepsychiatry

OBJECTIVE

Telemedicine refers to the provision of medical services using information and communication technology, generally classified as synchronous and asynchronous. Synchronous telemedicine involves real-time interaction between medical professionals and patients. This includes telephone calls, which provide voice-only communication, and video calls, which enable both voice and video communication. In contrast, asynchronous telemedicine relies on non-real-time communication methods, such as email and chat.[1] However, asynchronous communication faces several challenges, including high dropout rates, difficulties in establishing a therapeutic relationship, and low completion rates.[2]

The COVID-19 pandemic led to the rapid and forced spread of telemedicine. Recent research has investigated the use of telemedicine, focusing on data from health interview surveys conducted

in North America. A study by Lucas and Villarroel[3] found that in 2021, 37.0% of adults had used telemedicine in the previous 12 months. The study also revealed that telemedicine usage increased with age and women (42.0%) reported higher usage rates than men (31.7%). Usage rates varied by ethnicity, with non-Hispanic Whites (39.2%) and non-Hispanic American Indians or Alaska Natives (40.6%) more likely to use telemedicine than Hispanics (32.8%), non-Hispanic Blacks (33.1%), or non-Hispanic Asians (33.0%). Additionally, telemedicine adoption increased with higher levels of education and family income. Regional differences were noted, and usage rates declined in less urbanized areas.

The same survey also reported on the use of telemedicine by children aged 0–17 years.[4] Approximately 12.6 million children—equivalent to 17.5% of children in this age group—used telemedicine in the past 12 months, spanning both pre-pandemic and pandemic periods. Children with asthma, developmental disorders, and disabilities were disproportionately represented among users, reflecting the specific healthcare needs of these populations.

At present, the continued use of telemedicine after the pandemic is being considered. Telemedicine, which began without choice owing to the pandemic, should be evaluated from the patient's perspective. Additionally, the choice to continue the use of telemedicine should consider the opinions of providers who have actually used it.

Telepsychiatry has been considered a promising treatment option since before the pandemic because of its convenience, low cost, and low barriers to access. Empirical studies and reviews, including randomized controlled trials, have been conducted comparing telemedicine with face-to-face medicine.[5,6] Previous studies, including observational studies, have reported high patient satisfaction and treatment efficacy with telemedicine comparable to face-to-face medicine.[7–13]

Conversely, there are reports that patients are aware of the potential benefits of telemedicine, such as access and convenience, but are hesitant to use it,[14] and patient acceptance is limited when compared to face-to-face medicine.[15] The reasons for negative views of telemedicine are not clear, but it is thought that the lack of a unified definition or standard format for telemedicine, technical problems, and a lack of information on its effectiveness have an impact.[8]

The COVID-19 pandemic occurred under precarious circumstances, and patients and healthcare providers accepted telepsychiatry regardless of their own will. Considering these circumstances, the continuation of telepsychiatry after a pandemic should be carefully considered with reference to previous studies.[8,14,15]

However, most previous studies are based on quantitative surveys; Moeller et al.[16] conducted a literature search for qualitative studies based on the patient perspective on telemedicine in psychiatry over the past 20 years up to December 2021. As a summary of the 11 included studies, the following five factors were identified as important for promoting telemedicine: (1) if there are barriers or inconveniences to accessing medical care, (2) if a trusting relationship has already been established with the therapist, (3) when technical problems are small and can be solved quickly, (4) when the patient does not want a very personal interview, and (5) when the patient's problems are not very complex.

In 2015, the first author conducted a survey of members of family associations across Japan to evaluate the attitudes of psychiatrists toward patients and their families.[17,18] By using a combination of multiple-choice and open-ended questions, it was possible to grasp patients' and their families' feelings, which could not be captured by the multiple-choice responses. This allowed us to identify issues that had not been previously anticipated. However, the first author reported the results of the quantitative[17] and qualitative surveys[18] in separate studies; the two surveys were not integrated.

In mixed research methods, the results of quantitative and qualitative research are integrated and discussed in the same study.[19–22] Mixed research methods are designed to integrate both research methods at the research design stage, and the aim is to pursue an understanding and synergy that cannot be obtained from quantitative or qualitative data alone." Evaluating the quality of medical care requires a multifaceted viewpoint. Although the quality of medical care should not be measured solely in terms of patient satisfaction, it is important to at least evaluate it from the patients' perspective—the recipients of medical care. In this study, we conducted a literature review of mixed research methods used to evaluate patients' perspectives on telepsychiatry, which has rapidly spread due to the COVID-19 pandemic, over the past 10 years. By clarifying the issues with telemedicine from a patient-centered perspective and the providers' perspective, we aim to propose further research directions and areas for improvement necessary to continue telepsychiatry.

METHODS

Search method

Using MEDLINE as the database, we searched between January 2014 and August 2024 using a search formula ((Telemedicine OR Telehealth OR Telepsychiatry) AND ('Patient Satisfaction' OR 'Patient Perception' OR 'Patient Perspective' OR Acceptance OR Preference)) AND ('Mental Disorders' OR 'Mental Health'). The last date of access was September 20, 2024.

The inclusion criteria were as follows: (1) published in English; (2) full text available; (3) original articles; (4) patient satisfaction assessment, patient experience as primary objective; and (5) mixed studies. The exclusion criteria were: (1) systematic reviews, narrative reviews, case reports, conference proceedings; (2) studies of conditions other than dementia, intellectual disability, or psychiatric disorders, including substance use disorders; (3) studies with no statistical validation of results; (4) intervention studies; and (5) studies of asynchronous support only.

There are two types of telemedicine: synchronous, which includes real-time communication, and asynchronous, which does not. Asynchronous telemedicine has been reported to have problems with a high dropout rate, difficulty in forming a therapeutic relationship, and a low completion rate,[2] therefore this study excluded studies in which only asynchronous support was provided.

Integrated designs for quantitative and qualitative research

There are three types of mixed methods research integration: convergent design (quantitative and qualitative data are collected and analyzed separately and the results of data analysis are integrated or compared), explanatory sequential design (quantitative data are collected and analyzed, and then qualitative data are collected and analyzed), and exploratory sequential design (exploring the problem by first collecting and analyzing qualitative data, then collecting and analyzing quantitative data and developing measurement scales and intervention measures based on the results). In this study, we classified the integration of the 11 studies according to the procedures outlined in Creswell's[19] study regarding the integration typology of mixed research methods.

RESULTS

Search results

Figure 1 outlines the literature selection process. Using MEDLINE as a database, we searched for studies from January 2014 to August 2024 using the search formula ((Telemedicine OR Telehealth OR Telepsychiatry) AND ('Patient Satisfaction' OR 'Patient Perception' OR 'Patient Perspective' OR Acceptance OR Preference)) AND ('Mental Disorders' OR 'Mental Health'), and obtained 1325 studies. From these, we excluded 605 studies that were systematic reviews, narrative reviews, clinical trials, case reports, letters, without the full text, not in English, and conducted prior to the last 10 years. After a close examination of the remaining 720 studies, 709 were excluded for the following reasons: studies on subjects other than dementia, intellectual disability, or mental illness; studies not using mixed research methods; asynchronous support only; and studies whose titles and abstracts clearly did not meet the selection criteria. Consequently, we obtained 11 studies for inclusion in this study.[23–33] The literature was selected by the first and second authors. As this study included research that used multiple research methods, it was not possible to integrate the statistical evidence. However, a descriptive analysis was attempted.

Outline of research

A summary of the 11 included studies is presented in Tables 1 and 2.

Research design

The study designs were all descriptive, cross-sectional studies with no control group, and mixed research methods were used.

Timing and countries of implementation

There was one study from before the pandemic.[32] After the pandemic, there were 10 studies after 2020.[23–31,33] Figure 2 shows the distribution of the research by country. The country with most research studies was the United States.

Characteristics of the participants

The sample size ranged from 22 patients[32] to 1070 patients.[31] As all the surveys were conducted online, the sample did not include patients who did not have access to the internet. Furthermore, it was composed of patients engaged in telemedicine. Many of the surveys were limited to specific regions.

The diagnostic categories were mood disorder in two cases,[25,26] unspecified in five cases,[23,27,28,31,33] gender identity disorder in one

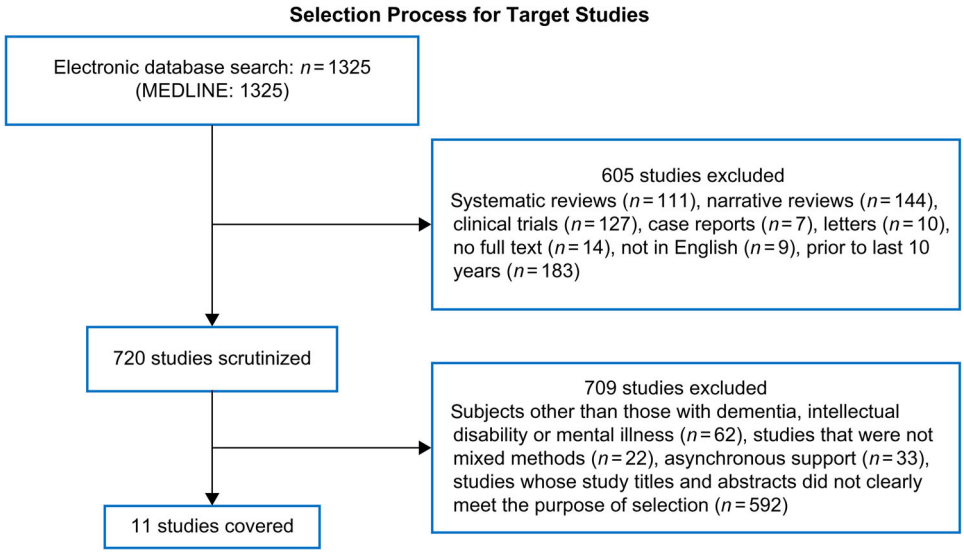

FIGURE 1 Selection process for target studies.

TABLE 1 Summary of 11 studies: research objectives, target group, and method of investigation.

No.	Author, country, publication year	Research objectives	Sample size	Target group	Bias related to sample size	Method of investigation
1	Lynch et al., USA[27]	Success factors for transition to telepsychiatry: patient and provider satisfaction	72	Transition to telemedicine effective March 16, 2020 Outpatient Department of Psychiatry, University Hospital (37 male, 21 female, 4 non-binary; mean age 28.45 years Diagnoses: affective disorder 50%, schizophrenia 25% Many middle- and upper-income patients Treatment content ⇒ face-to-face care: individualized treatment, telemedicine: group-based	Limited to middle- and upper-income earners with access to the internet and the skills to use it	Client Satisfaction Questionnaire (CSQ-8) Data collection: 6 weeks before migration (Pre), 6 weeks after migration (Post1), and 6 weeks afterward (Post2), for a total of 18 weeks ⇒ Satisfaction: measured after 10 weeks of transition (Post2) ⇒ Attendance/absenteeism: conducted in Post1 and Post2 Semi-structured group interviews with six healthcare providers on factors contributing to successful transition and challenges: conducted in Post2
2	Tarp et al., Denmark[32]	Ease of use and feasibility for patients and providers of telepsychiatry	22	Implemented 6 months from February, 2018 Danish-language telemedicine for individuals with alcohol use issues (both face-to-face and telemedicine): available online (15 males, 7 females; mean age 47 years)Diagnosis: alcohol use disorderTherapy: Individualized online text study incorporating mainly cognitive-behavioral therapy and in-person therapy	As participants were recruited through an online platform, many of them were familiar with technology; based on reports from a small number of patients and providers	SUS: A "Quick and Dirty" Usability Scale) Danish version (measured at baseline and every 3 months) Interviews at the end of the study ⇒ Semi-structured interviews with four of the patients who responded to the quantitative survey ⇒ Unstructured group interviews with seven providers
3	Ward et al., USA[33]	Ease of use of emergency telepsychiatry, patient and provider evaluation	66	April 1–June 30, 2020 Online survey of patients and medical staff who have received emergency remote psychiatry (a system in which psychiatrists use iPads to examine emergency patients) at the Veterans Administration (17 patients, 49 providers more than 90% male; age: more than half 45–64 years; name of diagnosis: not stated; Description of treatment: psychiatric symptom evaluation and allocation of hospitalization or transfer Track usage through January 31, 2021	Limited to veterans with telehealth technology access	Telehealth Usability Questionnaire: measured after the implementation of first aid Comparison with data on outcomes, length of hospital stay, etc. for 502 face-to-face medical patients (December 1, 2019–February 29, 2020) Semi-structured interviews with 16 providers
4	Michaels et al., USA[28]	Satisfaction with telepsychiatry among post-acute college students	101	April–July, 2020 Data from 14,000 people receiving telepsychiatry (Guinart, 2020); college students with a history of psychiatric hospitalization were selected (72.7% female; average age 22.3 years old Diagnosis: F28, F31, F32, F6	Survey questionnaire was modified to match the sample of university outpatient patients included in the data of the 14,000 people who received telemedicine	Patient Satisfaction Questionnaire (original): 11-item 5-point Likert Free response on advantages and challenges of telepsychiatry

TABLE 1 (Continued)

No.	Author, country, publication year	Research objectives	Sample size	Target group	Bias related to sample size	Method of investigation
				Years of treatment: 36.8% less than 6 months, 23.7% 1 – 2 years (1) College therapy and medication (CTM): 78 patients ⇒ Most patients treated for less than 6 months (2) College medication only (CMO): 23 patients ⇒ 48% treated for more than 5 years		
5	Gonzalez et al., USA[25]	Acceptability and concerns about telepsychiatry for patients with depressive episodes during postpartum	479	July–August, 2020 Online survey of women aged 18–50 years who gave birth in the past 12 months (Predominantly non-Latino (7% Latino); average age: 30.3 years Diagnosis: F32 Patients who received telepsychiatry: 126 Period of receiving telepsychiatry: 67 days	As participants were recruited through an online platform, many of them were familiar with technology; few samples of non-White people	EPDS: Edinburgh postnatal depression scale Telepsychiatry Experience Questionnaire (original): 4-point Likert scale Respondents who answered "not positive about telepsychiatry" gave reasons in free text
6	Navarro et al., Canada[29]	Preferences of patients with gender identity disorder regarding telepsychiatry	812	September–October, 2020 Transgender and nonbinary (TNB) participants and those who have experienced telepsychiatry (patients: 24.7% female, 24.4%; male, 48.7%; non-binary, 38%; aged 25–34 years Diagnosis: F64	Participant recruitment through convenience sampling	Telemedicine preference survey (original): telepsychiatry or face-to-face care after a pandemic Free responses to clarify the reasons for the preference of telepsychiatry and face-to-face care
7	Ceniti et al., Canada[23]	Patient and provider satisfaction with telepsychiatry	332	Online survey of mentally ill patients and healthcare providers across Canada who used telepsychiatry after March 1, 2020 (Patients: 71.7% female; 25% aged 30–39, 20% aged 18–29 years; 107 healthcare providers: psychiatrists providing telepsychiatry (92%), family physicians (8%) Average number of visits per week: 22.5 Diagnosis: Not specified	Online self-reporting; there were only 73 patients who did not receive telemedicine	Telemedicine Satisfaction Questionnaire (original) 7-item, 7-step Likert scale Free response to questionnaire
8	Chatterton et al., Australia[24]	Patient and providers ratings of the ease of use of telepsychiatry	26	Online survey, September–December, 2020 Patients who used telepsychiatry (gender, age, and diagnosis not stated); 88 providers Diagnosis: Not stated	Most of the respondents were repeat users of telemedicine	Development of the Telehealth Usability Questionnaire (TUQ): 4-item 4-point Likert scale Semi-structured interviews with six patients who agreed to be interviewed; semi-structured group interviews with 32 providers
9	Randall et al., Australia[30]	Patients' and providers' use and experience of telepsychiatry	140	First episode of psychosis between 16 and 25 years of age and within 12 months of treatment	Effect size (d) of T1 and T2 was measured	Questionnaire about telepsychiatry (original): 6-item, 5-point Likert scale

(Continues)

TABLE 1 (Continued)

No.	Author, country, publication year	Research objectives	Sample size	Target group	Bias related to sample size	Method of investigation
				(1) Medical database survey Comparing the two months before and after the introduction of telemedicine (2) Questionnaire survey ⇒ T1: before the introduction of telepsychiatry (January–February, 2020) ⇒ T2: after the introduction of telepsychiatry (April-May, 2020) Patients for whom data were available at both time points; average age: 21 years; 69.1% male; length of hospital stay: 16.4 months; 27 healthcare providers Diagnosis: F2, F3		Free response to questionnaire
10	Hudson et al., USA[26]	Therapeutic effectiveness of telepsychiatry and patients' experiences	282	April–December, 2020 Acute patients who received intensive care programs at a partial hospital Patients treated in acute care: major depression 93.2%, generalized anxiety disorder 51.0%, social anxiety disorder 24.1%, history of suicide attempt 22.3%, hospitalization in the past 6 months 37.3%, self-harm 58.98 (1) $n = 282$: telemedicine group (April–December, 2020) mean age: 36.31 years; 41% male (2) $n = 470$: face-to-face medical group (April–December, 2019) mean age: 33.87 years; 58.5% male ⇒Apart from gender, there were no significant differences between (1) and (2)	Participants in telemedicine limited to those who can use the internet; number of male patients in telemedicine significantly lower than that in face-to-face medicine; number of responses from patients receiving face-to-face medical care significantly higher	Perceptions of Care Survey: 18-item, 4-point Likert scale Free response to questionnaire
11	Sheriff et al., UK[31]	Patients', caregivers', and providers' views and preferences for telepsychiatry	1070	From March, 2021 to May, 2022, when there were behavioral restrictions due to the pandemic multicenter study in the United Kingdom and Italy (1) Survey: (UK 906, Italy 164): More than 40% of patients have anxiety and mood disorders) 173 caregivers: (UK 117, Italy 56) 555 providers (UK 483, Italy 72) (2) Focus group interviews: conducted in March, 2021 in the UK and May, 2022 in Italy; 17 patients; 14 providers	Survey was conducted digitally; only two facilities in the UK and two in Italy covered Among patients, the proportion of older people (13.3%), men (29.1%), and ethnic minorities (17.1%) was low	Three questionnaires about experiences with telepsychiatry (original, developed jointly by patients, providers, and caregivers) Focus group interviews: 6 (4 in the UK, 2 in Italy)

TABLE 2 Summary of 11 studies: results and integration design/findings from integration.

No.	Author, country	Quantitative and qualitative results	Integration design/findings from integration
1	Lynch et al., USA[27]	**Quantitative survey** Transition: 93% of the 60 registered patients agreed to maintain post-transition Satisfaction: 31% of Post1 responded; over 80% satisfied with telemedicine; 78% said in-person and telemedicine are equally good, but would choose in-person if given a choice Attendance: no significant difference between face-to-face and telemedicine Absenteeism: telemedicine less than face-to-face care; patients with a diagnosis of psychosis were less absent **Qualitative research** Skeptical about the introduction, but affirmed by stable patient attendance Telemedicine is particularly popular with patients diagnosed with psychosis: there is no need to visit the clinic. However, the routine associated with hospital visits increases investment in treatment and health promotion behaviors Challenges: Distractions during treatment on the patient side; visual devices required for attractive text on the medical side; "You can't stop someone in the hallway": the informal, spontaneous, and impromptu interactions that occur in face-to-face medicine are lost in telemedicine	**Convergence design** (1) Convenience has both pros and cons ⇒ On the one hand, there is the advantage of eliminating travel for medical appointments; on the other hand, there is a therapeutic effect of travel to clinics, therefore more needs to be done to encourage telemedicine users to participate in a broader community (2) Communication gap, concerns about safety and suicide risk ⇒ It is impossible to foster close relationships with patients in telemedicine, compared to, for example, through informal interactions in face-to-face medical care; there is a need to devise more purposeful and planned communication and effective text material (3) Concerns about patient safety and privacy ⇒ Remote training of medical personnel for patients in crisis; development of new procedures to ensure privacy
2	Tarp et al., Denmark[32]	**Quantitative survey** Ease of use: above average score Increased completion rates when used in conjunction with telemedicine **Qualitative research** Patients: Anonymity and lack of stigma, fewer clinic visits, responsible for their own treatment, easier self-expression in writing compared to face-to-face medical care, and ability to download materials after treatment Providers: Can be integrated into community-based treatment; written feedback, rather than immediate face-to-face feedback, allows time to think through content; administrative support for time use is essential	**Description sequential design** (1) The practice of blended therapy combining face-to-face and internet care is supported as a way to address the difficulties (e.g., patient understanding) in telemedicine (2) Qualitative research shows that telemedicine reduces stigma and improves patients' motivation for treatment ⇒ Highlights the need to clarify the actual effectiveness of telemedicine and justifies efficacy studies in comparative trials using a control group
3	Ward et al., USA[33]	**Quantitative survey** Majority of patients and providers report improved access, overall satisfaction, and increased value of care Safety and efficacy outcomes: no decline after telemedicine compared to face-to-face care Time spent in clinic: face-to-face 6.3 ⇒ 5.8 after the introduction of telemedicine Length of hospital stay, symptoms, and mortality at 30 days: no trend toward deterioration with telemedicine. It continued for another 10 months **Qualitative research** Improved speed and efficiency of medical care contributes to greater patient satisfaction A "virtual ability" to see patients across clinical sites was created Communication with patients: "Alienated by the introduction of telemedicine" and "Improved by the introduction of telemedicine" are two sides of the coin When alcohol detox causes anger issues, resistance to using an iPad instead of a direct medical examination may occur	**Convergence design** (1) Timely response without compromising quality of care: speed contributes to satisfaction and continued use (2) Initial resistance of medical personnel ⇒ Getting them to use the system, even for a short time, may help overcome resistance and prevent physician burnout (3) The only patient who died by suicide was admitted to a psychiatric hospital based on telemedicine evaluation ⇒ Qualitative results may support the safety and effectiveness of telemedicine evaluation of high-risk patients, suggesting the need for follow-up studies
4	Michaels et al., USA[28]	**Quantitative survey** Use of telepsychiatry: CTM 81%, CMO 74% Satisfied with telepsychiatry: CTM 89.6%, CMO 69.3% ⇒ No group differences based on gender, race, or ethnicity	**Convergent design** (1) Quantitative survey: telepsychiatry is perceived differently in psychotherapy versus medication alone

(Continues)

TABLE 2 (Continued)

No.	Author, country	Quantitative and qualitative results	Integration design/findings from integration
		⇒ CTM: More satisfied with telephone-based telepsychiatry; CMO: More satisfied with telepsychiatry overall ⇒ CMO: 78% perceived telepsychiatry as equivalent to face-to-face care; CTM: agreement was 32% and neutrality was 30% Advantages of telepsychiatry: both groups rated it easy to use Concerns of telepsychiatry: technical aspects and perceived quality of care in both groups **Qualitative study** Advantages of telepsychiatry: flexible scheduling, no need for hospital visits, fewer missed appointments, more comfortable talking than in face-to-face care Concerns regarding telepsychiatry: poor quality of care (e.g., not feeling connected to therapist, missing therapist), confidentiality and privacy issues, and ensuring a safe location	(2) Qualitative study: expectations of the relationship with the therapist vary from individual to individual ⇒ Suicidal tendencies, self-harm, and depression may increase privacy concerns ⇒ Need for further research on the location of telepsychiatry (e.g., home or student residence) and whether differences in service delivery/immediate environment of the patient improve satisfaction ⇒ Transition to telepsychiatry easily adopted, but challenges remain for continued use after the acute phase ⇒ Understanding the benefits and challenges of telepsychiatry for high-risk college students may help improve access to early care
5	Gonzalez et al., USA[25]	**Quantitative survey** 66% had depressive symptoms ⇒ Only 27% received treatment (half of them via telepsychiatry) Satisfaction with telepsychiatry: 90% non-Latinos "satisfied to very satisfied," 45.5% Latinos "dissatisfied to strongly dissatisfied" Willingness to consult telepsychiatry: 88% were willing to consult in the future; 91% "would consider telepsychiatry" Telepsychiatry concerns: privacy 47.2%, cost 46.3%, time 27.1%, and trust 26.7% **Qualitative study** Reasons for concern regarding telepsychiatry: (1) prefer face-to-face care; (2) do not feel the need for treatment (even those with depression responded this way); (3) resist talking about sensitive topics online; (4) lack of privacy at home	**Expository sequential design** (1) Quantitative results: low treatment rates for postpartum depression, telepsychiatry still not readily available (2) Qualitative results: specific reasons were identified for the lack of access to telepsychiatry ⇒ Future research should focus on longer surveys, non-English versions of questionnaires, ethnic differences, and urban vs. rural differences
6	Navarro et al., Canada[29]	**Quantitative survey** Wish to continue telepsychiatry after the pandemic: 32.7% ⇒ Many had chronic disease complications and high anxiety Would pursue face-to-face care after the pandemic: 67.3% ⇒ Associated with age (those 14–19 years old and ≥50 years old prefer face-to-face care) **Qualitative study** Heterogeneity was observed ⇒ While some patients preferred telepsychiatry owing to their anxiety, others were apprehensive about telemedicine itself ⇒ Barriers posed by face-to-face care for patients with physical disabilities; telepsychiatry is less accessible for individuals with autism and other conditions Patients stated that telepsychiatry was their first choice when they felt that they did not need face-to-face care, such as for refilling prescriptions, while face-to-face care was preferable when they felt it was necessary, such as for a physical exam Discrimination against gender identity disorder and discomfort/stigma of therapists were seen as reasons for not liking telepsychiatry (e.g., when making telephone appointments, often misgendered just by hearing their voice)	**Expository sequential design** (1) Quantitative results: anxiety and chronic illness complications may lead to hope for telepsychiatry (2) Qualitative results: heterogeneity was observed through more detailed responses compared to the quantitative survey ⇒ The importance of examining and addressing the detailed classification of disability types, chronic disease comorbidities, mental status distinctions, and social factors became clear ⇒ Support the needs of patients by allowing flexibility of choice in care
7	Ceniti et al., Canada[23]	**Quantitative survey** Nearly 60% of patients and healthcare providers satisfied with telepsychiatry Top reasons for satisfaction: patients cited convenience, and providers cited the speed of care delivery Lowest satisfaction regarding therapeutic trust between patients and healthcare providers More than half of patients and 87% of healthcare providers prefer future continuation of telepsychiatry, either alone or in combination with face-to-face care	**Convergent design** (1) Quantitative results: high satisfaction with telepsychiatry confirmed (2) Qualitative results: specific issues for telepsychiatry dissemination were identified ⇒ While many patients and providers are satisfied with telepsychiatry as a whole, there are new issues to be addressed, such as improving trust in treatment, consideration for privacy, and technical assistance and training for providers

TABLE 2 (Continued)

No.	Author, country	Quantitative and qualitative results	Integration design/findings from integration
		Qualitative study Patients: telepsychiatry helps build trust with therapists: 205; not helpful: 155 Beneficial factors: ability to see therapist on screen and similarity to face-to-face care, immediate connection to care, ease of scheduling appointments Drawbacks: more hectic than face-to-face care, communication problems, difficulty finding a private space Providers: barriers to telepsychiatry: distraction, lack of nonverbal cues, difficulty maintaining eye contact, difficulty assessing general condition	
8	Chatterton et al., Australia[24]	**Quantitative survey** Patients overall experience: 86% satisfied, personal comfort: 82%, technical aspects: 92%, telepsychiatry reuse: 96% Providers: 86% satisfied with the achievement of treatment goals, 68% satisfied with the technical aspects **Qualitative study** Patients: Acceptance of telepsychiatry based on access to an appropriate location in the home, lack of feeling "connected," preference for telepsychiatry over telephone consultation, fear of invasion of home or other private space, concerns about risk of missing important clinical information or cues Providers: depends on the patient's condition (e.g., health diagnosis, diseases requiring medication management) There is a need to invest in a stable platform and infrastructure and develop guidelines	**Expository sequential design** (1) Quantitative results: overall satisfaction is high (2) Qualitative results: dissatisfaction with telepsychiatry, which is not conveyed by quantitative results alone, was observed Despite their dissatisfaction, patients preferred telepsychiatry as an option ⇒ Patients with low technological literacy, those who require medical examinations or medication management, and those with high levels of anxiety or paranoia are not suitable for telepsychiatry ⇒ Telepsychiatry challenges (the need for easy-to-use platforms, telemedicine infrastructure, development of guidelines, etc.) have been identified
9	Randall et al., Australia[30]	**Quantitative survey** Reservation status: Number of reservations, forgotten reservations, and cancellations are significantly higher in T2 than in T1 Patients: want to use both face-to-face and telepsychiatry: 36.6% telepsychiatry reduces anxiety, 60% do not know Preference for face-to-face care associated with younger age groups and high levels of anxiety Providers: 74.4% preferred a combination of face-to-face and telepsychiatry, 25.9% preferred face-to-face care only, none preferred telepsychiatry alone **Qualitative study** Patients: 70% cited advantages: convenience and access, improved services, independence in care; 29% cited concerns: technical issues, negative service experiences (isolation, loss of human connection and reality), privacy and confidentiality concerns Providers: 60.5% cited advantages: better access, better service, improved workplace; 39.5% cited concerns: poor quality, clinical assessment limitations, telemedicine skills shortage, fatigue from continuing to use Zoom	**Convergent design** (1) Quantitative results: significantly more cancellations for telepsychiatry, possible issues forming human connections despite convenience (2) Qualitative results: reasons found why no physicians requested "telepsychiatry only" ⇒ Telepsychiatry is perceived positively but not fully endorsed as an alternative to face-to-face care ⇒ Research is needed on long-term outcomes, implementation of telepsychiatry for specific disorders, and development of related skills
10	Hudson et al., USA[26]	**Quantitative survey** Attitude toward consultation: highly satisfied as with face-to-face care Advantages of telepsychiatry: convenience, reduced barriers to access Concerns of telepsychiatry: feeling disconnected from others, home environment, technical issues **Qualitative study** 198 respondents (68.89%), 13 stated that they would not have received treatment without telepsychiatry Advantages of telepsychiatry: "I didn't have to leave home," "I was able to continue treatment while continuing to work," "PowerPoint is convenient"	**Convergent design** (1) Quantitative results: satisfaction did not differ for telepsychiatry compared to face-to-face care (2) Qualitative results: telepsychiatry features function as both advantages and disadvantages ⇒ Telepsychiatry has the effect of systematically reducing hesitation and barriers to psychiatric consultation ⇒ To be considered as an ongoing treatment model, face-to-face treatment and telepsychiatry need to be compared under a range of conditions

(Continues)

TABLE 2 (Continued)

No.	Author, country	Quantitative and qualitative results	Integration design/findings from integration
		Negatives of telepsychiatry: "Lost the opportunity to interact with other patients," "Distracted and fiddling with phone," "It is easier to speak up in person," "It is difficult to ensure privacy in the home"	
11	Sheriff et al., UK[31]	**Quantitative survey** 78.1%–84.7% of all participant types (patients, caregivers, providers) preferred face-to-face care Advantages of face-to-face care: patient/caregiver: strong therapeutic relationship; clinician: ability to pick up on nonverbal cues in acute clinical situations, ability to see the patient in person, ease of family and caregiver participation Advantages of telemedicine: convenience (reduced travel time, reduced risk of infection, etc.), efficiency (ability to see many patients) **Qualitative research** Patients: Telepsychiatry has not improved during the pandemic. In particular, the choice of appointment type is determined by the clinician, not by patient preference Providers: Telemedicine is good for simple follow-up meetings such as medication reviews; may allow time to see more patients; may help overcome traditional barriers to seeking help	**Convergence design** Overall, clinicians viewed telepsychiatry more positively than patients Desire that patients, providers, and caregivers should be able to choose the type of consultation ⇒ Hybrid models of care are appropriate for many service users ⇒ More personalized services can be provided, considering the preferences of service users in addition to individual, disease, environmental, and situational factors Both quantitative and qualitative studies indicate that acute agitation, psychotic disorders, and suicidality are the least suitable for telepsychiatry

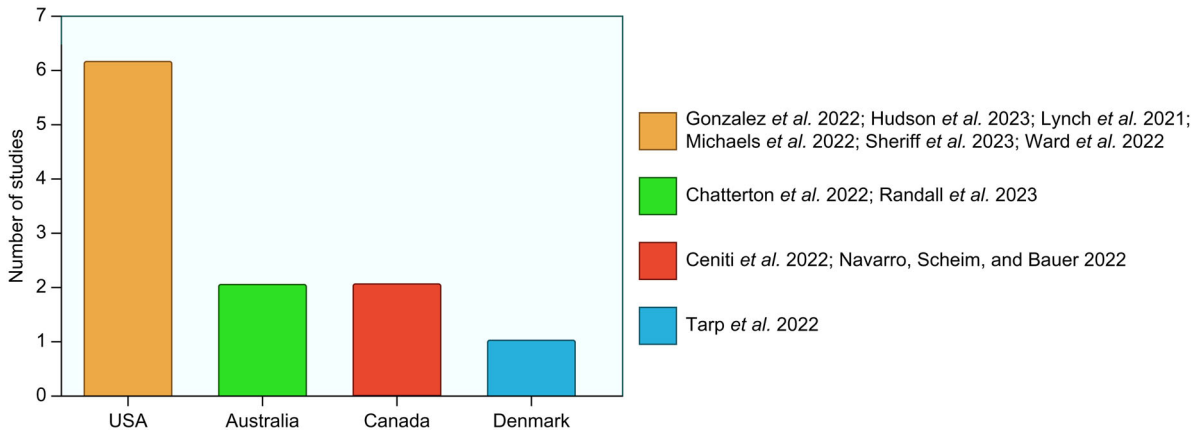

FIGURE 2 The distribution of the research by country.

case,[29] alcohol-related mental and behavioral disorders in two cases,[24,32] and psychosis in one case.[30] There were more male respondents in four cases,[27,30,32,33] more female respondents in three cases,[23,25,28] and one case of non-binary respondents.[29] There were six cases of research targeting the younger generation (in their 20s and early 30s),[23,25,27–30] and only one case of research targeting older adults. There were seven cases that also surveyed medical providers.

Five studies that described the relationship between patient demographic characteristics and outcomes[25,27–30] involved younger age groups, and those with higher anxiety symptoms tended to choose face-to-face medicine. The 14–19-year-olds and those over 50 years old were more likely to choose face-to-face medicine, while those with comorbid chronic conditions were more likely to choose telepsychiatry.[29] Differences were also seen between racial groups, with non-Latino patients being more satisfied with telemedicine than Latino patients.[25] Patients with mental disorders were less likely to cancel telemedicine appointments than patients with emotional disorders.[27] College students receiving drug therapy tended to rate telemedicine and face-to-face medicine equally compared to college students receiving both drug therapy and psychotherapy.[28]

Research methods, objectives, and results

Quantitative survey

Likert scales were used for all methods. The scales used included five existing scales: the Client Satisfaction Questionnaire (CSQ-8),[34] a "Quick and Dirty" Usability Scale (SUS),[35] Danish version, the Telehealth Usability Questionnaire (TUQ),[36] TUQ Revised Edition,[24] and the Perceptions of Care Survey.[37] The other six studies used original scales.

The main research objectives were "patient satisfaction with telemedicine" (three studies),[23,27,28] "ease of use of telemedicine" (three studies),[24,32,33] "patient experience" (three studies),[26,30,31] "patient acceptance of telemedicine" (one study),[25] and "patient choice of telemedicine" (two studies).[29,31] There were two studies that compared the consultation and absentee rates for face-to-face and telemedicine consultations,[27,30] and one study that compared telemedicine and face-to-face consultations in terms of symptoms, efficacy, safety, length of stay at medical institutions, length of hospital stay, and 30-day mortality rate.[33] There were five quantitative studies that simultaneously investigated patient evaluations and the use of telemedicine by providers.[23,24,30,31,33]

The results showed that five studies[23,25–28] reported high satisfaction with "patient satisfaction," "experience," and "acceptance" of telepsychiatry, and three studies[24,32,33] that asked about "ease of use" also received high ratings. However, in a study conducted on psychotic disorders,[30] 36.6% of the patients preferred both face-to-face medicine and telepsychiatry, and 60% were undecided as to whether their anxiety had been reduced after using telemedicine. In a study of patients with gender identity disorder,[29] 32.7% of the patients preferred telepsychiatry after the pandemic and 67.3% preferred face-to-face medicine. In 11 studies, "access" and "convenience" were selected as the specific advantages of telemedicine. "Concerns about privacy and confidentiality"[25] and "technical problems"[26,28] were selected as the barriers to telepsychiatry.

There were four quantitative surveys that simultaneously surveyed healthcare providers[23,24,30,33]; three of them[23,24,33] received high ratings. However, in a survey of healthcare professionals who treat patients with first-episode psychosis,[30] 74.4% of doctors preferred a combination of face-to-face and telemedicine, 25.9% preferred face-to-face only, and none preferred telemedicine only.

A study[33] that investigated the use of telemedicine in emergency psychiatric care reported high ratings from patients who used telemedicine. According to the results, there was no tendency for deterioration in symptoms, efficacy, safety, length of stay at medical institutions, length of hospital stay, or 30-day mortality rate when comparing telemedicine with face-to-face medicine.

Qualitative survey

The methods of the included studies comprised (1) online, self-administered, open-ended questionnaires, six by patients[23,25,26,28–30] and two by providers,[23,30] and (2) interviews, two semi-structured interviews with patients,[24,32] one group interview with patients,[31] five interviews with providers (four semi-structured group interviews,[24,26,31,33] and one unstructured group interview[32]).

In the content of the questions, eight cases used the convergent design[23,26–31,33] and asked questions with the same tendency as the quantitative survey, and three cases used the explanatory sequential design[24,25,32] and asked questions focusing on the reasons for the answers given by patients and medical staff in the quantitative survey.

The main themes addressed with patients were "advantages of telepsychiatry," "reasons for preferring telepsychiatry," and "barriers to telepsychiatry." As in the quantitative survey, "access" and "convenience" were frequently cited as "advantages of telepsychiatry" and "reasons for preferring telepsychiatry"; however, a closer look at the responses showed that patients were not uniformly "satisfied" with access and convenience. The occurrence of chronic diseases can have numerous adverse effects, including on the use of transportation; consequently, face-to-face medicine is avoided.[29] It was shown that various factors interact with each other and affect preferences for telepsychiatry. In addition, while there were reports of patients who were unable to receive face-to-face medicine owing to anxiety, there were also reports of patients who felt more anxious about telepsychiatry, leading to heterogeneity in the results. A reason given for preferring telepsychiatry, which was not included in the results of the quantitative survey, was discrimination and stigma.[29]

Privacy and confidentiality concerns were cited more often than quantitative surveys as "barriers to telepsychiatry".[23–26,28] For example, one participant stated, "I don't feel comfortable knowing that Zoom is identifying everything in my home. I don't like the privacy aspect when they have access to the camera and microphone, and I won't use it again" (diagnosis not stated).[24] Other than technical complaints, there were also comments about the increased sense of isolation and loss of opportunities for interaction with others and a lack of a sense of reality that came with using telemedicine.

Six qualitative studies included free-text data and interviews with healthcare providers.[23,24,27,30,32,33] The main question asked in the "Challenges in continuing telepsychiatry" section of the survey was "What are the challenges in continuing telepsychiatry?" The challenges included an easy-to-use platform, telemedicine infrastructure, knowledge of telemedicine and guidelines for its use, and innovations in symptom assessment and physician support.[24,27,30,32] Many cited "convenience" as an advantage of telemedicine, while others emphasized the need to visit the hospital as part of the treatment process.[29]

Integration of quantitative and qualitative research: Key findings

Research has shown synergistic effects, such as the appearance of results in qualitative research that are not present in quantitative research, or the results of qualitative research complementing the results of quantitative research.

For example, in the literature,[25] in a quantitative survey using the Edinburgh Postnatal Depression Scale[38] (EPDS), 66% patients had symptoms of depression. However, only 27% actually received treatment, revealing the low consultation rate. Of the 27%, half received telemedicine. When those who answered "reluctant to use telemedicine" in the quantitative survey were asked why in an open-ended question, they responded with "the hurdle for telemedicine at the first consultation is high," "concerns about privacy," "ethnic differences," and "I don't think I need treatment." Among six of the

19 respondents who responded "I don't think I need treatment," the EPDS suggested the possibility of depression.[25] By integrating quantitative and qualitative research, it was revealed that there was heterogeneity in the reasons given by those who responded that they preferred distance treatment and those who preferred face-to-face treatment. The integration revealed new research issues, such as the justification for conducting randomized controlled trials and research using large samples.[32]

DISCUSSION

This study provides a literature-based perspective on evaluations of telemedicine from the patient's perspective over the past 10 years, using a mixed research method that is thought to provide deeper insight than quantitative research alone. By clarifying the patients' and medical professionals' perspectives on telemedicine, as well as the problems that hinder telemedicine, we discuss the issues and future directions of telemedicine.

As a result of the literature review, 11 studies were extracted, of which seven included both patient and healthcare provider evaluations. The methods used to integrate quantitative and qualitative research were as follows: eight studies used a convergent design (e.g., Michaels et al.,[28] in which quantitative and qualitative data were collected from different populations) and three studies used an explanatory sequential design. In the quantitative studies, patients' evaluations were generally positive, and the main benefits were convenience and accessibility. In the qualitative studies, there was heterogeneity in the results depending on the patients' situation and social factors, such as whether they had a chronic illness and whether they experienced stigma. Problems for providers included the difficulty of assessing symptoms in telepsychiatry.

Evaluation from the patient's perspective

Most of the research conducted to date on telepsychiatry has focused on symptom assessment by providers, cost-effectiveness, and surveys of healthcare institutions; very few studies have aimed at evaluating the patient's perspective. In addition, most of the research has been based on quantitative surveys.

Previous studies based on quantitative research have often found that, in general, patients are "generally satisfied" with telemedicine[7–13]; however, there has been no in-depth insight into the opinions of a small number of patients or the reasons for these opinions.

The mixed methods approach used in this study is thought to have the advantage of providing a comprehensive understanding that cannot be obtained by only using a single method by using two complementary approaches: quantitative and qualitative research.[20] The current results provide a comprehensive understanding. In quantitative research, there were eight out of 11 items related to "patient satisfaction," "experience," "acceptability," "preference," and "ease of use" for telemedicine,[23–28,32,33] and qualitative research revealed that patients' opinions were diverse.

A survey of patients with gender identity disorder[29] showed that the typical benefits of telemedicine are access and convenience; however, a qualitative survey showed a more complex structure. Many patients with gender identity disorder have chronic physical illnesses and need to use multiple medical institutions. As a result of multiple factors, including geographical barriers to using public transportation, telemedicine was chosen.

Rather than evaluating telemedicine itself, it is necessary to look at the background that led to the above. However, another patient with chronic physical complications stated, "I have chronic health concerns and feel that it is essential to receive direct medical examinations throughout the year to maintain my health".[29] As such, it is clear that the evaluation of telemedicine and face-to-face medical care differs depending on the type of treatment sought and the patient's condition. In addition, while some people said they were unable to receive face-to-face medical care owing to anxiety, others said they were anxious about telemedicine itself. This kind of heterogeneity would not have emerged from a quantitative survey alone.

Furthermore, patients' past experiences also affect their evaluation of telemedicine. One patient with gender identity disorder experienced discrimination and stigma when they visited a medical institution in the past. For this patient, visiting a medical institution itself was a barrier. However, some patients with gender identity disorder cannot accept telemedicine because they feel uncomfortable with the pitch of their voice heard through the microphone or their appearance on the screen. When quantitative and qualitative research are combined, it becomes clear that what is beneficial for some patients may be distressing for others. Rather than a one-dimensional interpretation of whether or not patients are satisfied with telemedicine, it is evident that the evaluation of telemedicine differs greatly depending on the characteristics of the patient.

To meet the individual needs of patients, it is necessary to have the flexibility to be able to choose between remote psychiatric care and face-to-face care.

Patients are conscious of their personal thoughts when receiving medical treatment and not those of the entire patient population. It is not necessary to notice every individual's level of satisfaction or preferences, but if the medical staff knows the personal thoughts of patients, it will have a positive impact on actual clinical outcomes. Clinical practice often requires prioritizing the individual patient's voice over generalized quantitative research findings. Understanding and addressing these factors is a cornerstone of effective psychiatric care.

Perspectives of providers

For evaluations by providers[23,24,27,30–33] of the quantitative surveys, three[23,24,33] were generally satisfied with telemedicine, whereas in the qualitative survey of those in charge of patients with a first episode of psychosis,[30] most clinicians preferred a combination of face-to-face and remote consultations, with none preferring remote consultations

alone. This indicates that clinicians believe that remote consultations alone are insufficient for providing adequate care during the sensitive period of the first episode. One idea would be a hybrid approach, where face-to-face care is provided initially, and then switched to telemedicine once the patient's condition has stabilized. The fact that some providers have stated that "telemedicine is suitable for simple follow-up observations, such as medication guidance"[31] is also thought to indicate that a hybrid approach is preferable.

There were also many positive opinions about "convenience," as with the patients; however, there were also opinions that weighed up the benefits of hospital visits, expressing that "for some patients, long-term use of telemedicine may hinder recovery." This way of thinking is something on which opinions will differ depending on the patient's condition.

Some research results showed that the passage of time affects evaluation.[33] In the case of emergency telemedicine, it has been shown that the resistance of medical staff, which was strong at the beginning of its introduction, changes over time. It has been reported that encouraging medical staff to use telemedicine, even for short periods of time, helps overcome resistance and that the use of telemedicine can prevent doctors from becoming burnt out.

As such, telemedicine is positively accepted by providers; however, it is not recognized as a sufficient alternative to face-to-face care. To promote telemedicine, it is necessary to resolve these concerns of providers.

Barriers to telepsychiatry

Difficulties of maintaining confidentiality and privacy[23–26,28,30] were cited as barriers to telepsychiatry. This concern was seen in many of the qualitative studies, and was more common than concerns about technical issues. When providers propose telepsychiatry to patients, they need to consider whether the patient's home environment is suitable.

While some providers empathized with patients' concerns about confidentiality and privacy, others pointed out the therapeutic benefits of telemedicine, such as "being able to get a glimpse of the patient's home life".[24] Naturally, it is necessary to check how the patient feels. Next, there were concerns among providers that "the boundary between the waiting room and consultation room would be lost"[24] and that there would be a "communication gap with the patient".[27] Some patients feel alienated by the introduction of telemedicine, while others responded that it has improved their situation.[33] This is thought to be influenced by the relationship between the provider and the patient, as well as the patient's preferences and values, and requires a personalized response.

Future issues and directions

In prior research, a questionnaire was administered to study businesses that have actually implemented telemedicine, with the theme of "Issues and Measures for Continuing Telemedicine," and specific proposals were made, such as the development of easy-to-use platforms and infrastructure, the creation of medical guidelines, and support for the workload of doctors.[23,24,27,30,32] For example, as a measure to counter patient distraction, it has been suggested that visually attractive text be prepared in advance as a means to review the way providers work; it has also been suggested that they devise ways to allocate working hours more effectively.[23,24] As a measure for cases where it is difficult to assess symptoms, it is thought that visual cues (using video, emphasizing body language, looking at the webcam rather than the screen) could be used.[23] Conversely, there were also opinions that in cases where the patient's physical condition is serious, such as in the case of patients with eating disorders or in the case of a first consultation, face-to-face care should be prioritized. It is important to be able to choose the form of medical examination according to the patient's symptoms and circumstances.[31]

A problem that arises when conducting mixed research is the issue of sampling. In quantitative research, the size of the sample is important; however, in qualitative research, the emphasis is not on the number of samples, but on whether the sample is suitable for the purpose and whether it can provide a wealth of information. In addition, the approaches to the reliability and validity of research differ between quantitative and qualitative research. In quantitative research, the aim is to achieve reproducibility, high accuracy, and generalization from the sample to the target population. However, in qualitative research, the aim is not generalization, but to understand the meaning of social phenomena and to construct concepts.

To conduct research using these very different approaches and make the most of the results, it will be necessary for experts from different fields to work together from various perspectives. In the case of mental illness, social phenomena play a major role in patient outcomes. In the future, it may become necessary to conduct research using a mixed methods approach that includes sociologists.

Mixed research methods can also generate new research questions. For example, in a study of patients with postpartum depression, quantitative research showed that 66% of patients had symptoms of depression.[25] This is considerably higher than previous research.[39] The increase in postpartum depression may be in part due to the large-scale outbreak of COVID-19, and the need for long-term follow-up has been confirmed. In addition, the open-ended question about the reasons for concern about telemedicine revealed specific reasons, and it is possible that patients with untreated postpartum depression are using telemedicine as an opportunity to access treatment. Whether these results can be generalized is a new research issue that has been highlighted, such as extending the survey period or using questionnaires in languages other than English to confirm the validity of the results. Other issues include the appropriateness of conducting a study with a controlled design to investigate the actual effects of telepsychiatry based on qualitative research with individuals experiencing alcohol-related concerns.[32] In the future, it will be necessary to conduct a randomized controlled trial that matches the conditions of face-to-face and remote consultations for patients with depression.[26]

Mertens and Hesse-Biber[40] state that "what is a 'research question' or 'reliable evidence' depends on what 'window' you look through (i.e., what paradigm you use to conduct your research)." This review is important because it focuses on the evaluation of telepsychiatry from the patient's perspective through a wider "window."

LIMITATIONS

This study did not identify, select, or evaluate studies on patient satisfaction or patient experience with telepsychiatry systematically and explicitly, as in systematic reviews. Another limitation is that the reviewed studies were based on online surveys, excluding individuals without internet access. Additionally, the samples consisted of individuals using telemedicine, with many studies confined to specific regions.

CONCLUSION

To continue telepsychiatry in the future, it is necessary to collect detailed opinions from a patient-centered perspective and providers' perspective through qualitative and quantitative research. In addition, it is necessary to evaluate the effectiveness of telepsychiatry through large-scale, diverse controlled studies and surveys. It is hoped that through such efforts, telepsychiatry will become an established and beneficial option for patients and their families.

AUTHOR CONTRIBUTIONS

Ikuko Natsukari and Norio Ozaki planned the study. Norio Ozaki managed and supervised the study. Ikuko Natsukari implemented the program and collected the data. Ikuko Natsukari and Norio Ozaki drafted the report. All authors read and approved the final manuscript.

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CONFLICT OF INTEREST STATEMENT

Norio Ozaki received research support or speakers' honoraria from, or has served as a joint researcher with, or a consultant to, Sumitomo Pharma, Otsuka, Viatris, Eisai, Mochida, Kyowa Pharmaceutical Industry, Nihon Medi-Physics, Nippon Chemiphar, Medical Review, Nippon Boehringer Ingelheim, and SUSMED outside the submitted work. The remaining author declares no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICS APPROVAL STATEMENT

N/A.

PATIENT CONSENT STATEMENT

N/A.

CLINICAL TRIAL REGISTRATION

N/A.

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