

Online Psychotherapy Challenges among Clinical Psychologists in India: Clinical, Ethical, and Regulatory Issues

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Abstract

Introduction: India faces a significant mental health treatment gap due to the scarcity of licensed clinical psychologists and the increasing demand for services. Online psychotherapy has emerged as an important mode of service delivery, particularly following the pandemic and recent digital and policy developments. However, research has largely focused on client outcomes, with limited attention to clinicians' professional experiences, especially within the Indian regulatory and training context. **Aim:** The present study aimed to examine the challenges, felt needs, and professional gaps experienced by clinical psychologists in India providing psychotherapy through online platforms. **Methods:** A two-stage design was employed. First, a systematic review was conducted to identify challenges related to online psychotherapy practice among clinical psychologists in India. Second, a cross-sectional exploratory online survey was conducted with 50 clinical psychologists in India using a semi-structured questionnaire. Descriptive statistics and thematic analysis were used. **Results:** Only nine studies were eligible for final inclusion, published between 2015 and 2025. Findings revealed challenges across technological, clinical, ethical, and regulatory domains, including platform limitations, difficulties in risk management, lack of structured supervision, and ambiguity regarding licensing and regulatory processes. A strong need for clinician-oriented digital tools, training in online psychotherapy and ethics, and clearer regulatory guidance was identified. **Conclusion:** The study highlights critical gaps in the current online psychotherapy ecosystem in India. Findings can inform application developers, training institutions, and regulatory bodies to support ethical, sustainable, and clinician-informed digital mental health practice.

Keywords: Clinical psychologists, digital mental health, India, online psychotherapy, professional challenges

INTRODUCTION

Mental healthcare systems worldwide are facing a growing imbalance between the number of trained mental health professionals and the demand for services.^[1] This imbalance is particularly acute in India, with a huge treatment gap.^[2] Despite increasing awareness about mental health needs, the number of licensed clinical psychologists remains limited with respect to the size of the population requiring care, resulting in a treatment gap.^[3] This scarcity not only puts pressure on existing practitioners but also prompts the exploration of alternative modes of service delivery, including both online and digitally mediated psychotherapy.^[4,5]

Online psychotherapy has gradually become an integral component of routine clinical practice in India,^[4,6] specifically postcoronavirus disease 2019 pandemic. Improvements in digital connectivity, widespread availability of smartphones, and increasing familiarity with technology among both clinicians

and clients have enabled mental health professionals to provide psychotherapy across geographical and logistical constraints, including in semi-urban and remote or rural settings.^[7] Digital technologies have been adopted in multiple areas of mental health care in India, including teleconsultation, mobile-based interventions, software-assisted psychological assessment, professional training, and public mental health education.^[4] These developments have contributed to the growing legitimacy of online psychotherapy as a mode of clinical engagement rather than a mere emergency alternative for in-person care.

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Lately, the digital mental health landscape has expanded further with developments of artificial intelligence (AI)-based tools and software, including conversational agents and large language models, for example, ChatGPT. These technologies are increasingly promoted as scalable solutions capable of extending mental health services to underserved populations.^[8] However, concerns are raised on their clinical reliability, ethical implications, and the absence of any supervised or clear governance mechanisms. Researchers have emphasized that integrating AI into mental health care requires careful examination of its capabilities and limitations, along with policies that could guide ethical and responsible use.^[9]

The focus of online psychotherapy-related research has been primarily client-oriented. Several reports suggest that clients perceive online therapy as flexible, convenient, and comparable to in-person services.^[10] Although such findings are important in establishing the feasibility of online therapy, they provide an incomplete picture of clinical practice by offering limited insight into the professional experiences of those delivering psychotherapy in digital environments. Research from international contexts indicates that clinicians working online often encounter challenges related to forming and sustaining therapeutic alliance, interpreting nonverbal cues, managing risk remotely, maintaining professional boundaries, and ensuring confidentiality.^[11-13] These challenges are not simply technical obstacles but reflect deeper shifts in how therapeutic work is structured and experienced.

These challenges become much more complex under the umbrella of third-party digital platforms and therapy aggregators, as commercial considerations are prioritized, and they are largely designed from a client perspective. This offers limited support for clinician workflows such as ethical documentation, supervision, case formulation, and professional reflection. As a result, clinicians may be required to adapt their practice to platform constraints rather than being supported by technology designed around therapeutic processes.^[14] Although the present study does not examine AI use directly, AI-enabled tools increasingly form part of the broader digital ecosystem within which online psychotherapy is delivered. Understanding clinician perspectives on digital practice, therefore, has implications for the ethical integration of emerging technologies into mental health care. Recent changes in training pathways and workforce development discussions within the clinical psychology field further highlight the need to understand how existing practitioners adapt to emerging modes of online service delivery.

Despite the expansion of online psychotherapy, formal guidance specific to digital practice remains limited and fragmented.^[15] International telepsychology guidelines have emerged from western healthcare systems and do not readily translate to the Indian context, where differences in licensing structures, supervision norms, legal clarity, and technological infrastructure shape our clinical realities. The Telepsychiatry Operational Guidelines issued by NIMHANS (2020) provided important procedural and ethical guidance for

telepsychotherapy practice in India. However, they focused primarily on service delivery and offered limited guidance on clinicians' experiences, supervision models, platform-mediated practice, clinician-oriented digital infrastructure, and the integration of emerging technologies such as AI.^[16] Empirical research examining how licensed clinical psychologists in India experience and navigate online psychotherapy within these constraints remains sparse and understudied.

Several gaps in the literature are evident. First, there is a lack of systematic research on clinical psychologists' lived professional experiences of online psychotherapy. Second, the Indian regulatory and training context is underrepresented in studies of digital mental health practice. Third, there is limited empirical examination of how platform-mediated service delivery affects clinical autonomy, professional sustainability, and ethical decision-making. Finally, the development of digital and AI-enabled mental health tools (not usually developed by the key stakeholders) has largely proceeded without sustained input from practicing clinicians, resulting in a mismatch between technological innovation and clinical needs.

Addressing these gaps is essential for ensuring that the expansion of online psychotherapy supports ethical practice and professional integrity alongside access to mental health care. The present study responds to these needs by exploring the challenges, felt needs, and professional gaps experienced by clinical psychologists in India who provide psychotherapy through online and digital platforms. By integrating a systematic review of existing literature with findings from an exploratory online survey, the present research aims to generate clinician-informed evidence to inform training, policy development, clinical practice, and the design of digital tools and platforms suited to the Indian context.

METHODS

The present study objectives were (1) to conduct a systematic review to examine the existing literature to identify challenges experienced by clinical psychologists with respect to clinical, ethical, technological, and regulatory domains, and (2) to explore operational, clinical, ethical, and regulatory challenges faced by clinical psychologists while conducting psychotherapy in online settings. This study adopted a two-stage design comprising a systematic review of literature on online psychotherapy practice among clinical psychologists in India, followed by a cross-sectional exploratory online survey. The systematic review was conducted to identify recurring themes and knowledge gaps in the existing literature. Findings from the review informed the development of the pilot survey domains and enabled triangulation and contextualization of empirical findings with existing evidence how global trends and concerns manifest within the Indian clinical psychology context.^[17]

Systematic review procedure

The Preferred Reporting Items for Systematic Reviews and Meta-Analysis 2020 (PRISMA 2020) guidelines were used to

conduct this study [Figure 1].^[18] A protocol registry was not pursued for the present review, given its exploratory nature and clear focus on clinician experiences and professional challenges rather than intervention effectiveness.

Search strategy

A comprehensive search strategy was designed to search for relevant literature across three academic databases – PubMed, Scopus, and Google Scholar. These databases were chosen for their comprehensive coverage of the implementation and usage of digital tools in psychotherapy with structured indexing via Medical Subject Headings (MeSH) terms. Apart from these databases, citation tracking (backward and forward) was done to cover any missed literature. The publication date range was limited to the last 10 years (2015–2025) and English to include recent and understandable evidence relevant to this study. A comprehensive search string was designed using Boolean operators and synonyms of key terms extracted from MeSH, Emtree, and APA Dictionary. One example of a search string is as follows:

PubMed – ((“Mental Health Professionals”[Mesh] OR Psychologists[Mesh] OR Counselors[Mesh] OR clinical psychologist*[tiab] OR counsellor*[tiab] OR therapist*[tiab])) AND ((“Telemedicine”[Mesh] OR “Remote Consultation”[Mesh] OR “online counsel?ing”[tiab] OR telepsychology[tiab] OR teletherapy[tiab] OR “digital mental health”[tiab] OR “e-mental health”[tiab] OR “internet-based therap*”[tiab] OR “artificial intelligence”[tiab] OR chatbot*

OR “machine learning” OR “digital therapeutics”[tiab])) AND (challenge*[tiab] OR barrier*[tiab] OR limitation*[tiab] OR concern*[tiab] OR ethic*[tiab] OR attitude*[tiab] OR perception*[tiab] OR resistance[tiab] OR acceptance[tiab] OR adoption[tiab] OR implementation[tiab] OR feasibility[tiab]) AND (India[Mesh] OR India* OR Indian*).

Inclusion and exclusion criteria

The selection criteria for this study were designed using the Participants, Intervention, Comparators, Outcomes, Study Design (PICOS) framework.^[19] The population was limited to clinical psychologists, mental health counselors, psychotherapists, and therapists practicing in India. Studies with participants who were mental health professionals working in clinical, community, or online care settings in India and providing psychotherapy, counseling, or psychological support services were also included. This review focused on the implementation and use of digital mental health modalities for psychotherapy rather than on clinical intervention/efficacy. This included the use of digital psychotherapy tools, telepsychotherapy, telepsychology services, online counseling platforms, AI-enabled systems, and chatbots for mental health. The primary focus of the review was clinician experiences, perceptions, barriers, ethical concerns, and professional implications associated with online psychotherapy practice. Inclusion did not require a comparator or control condition. Since the review did not seek to assess the efficacy of digital interventions in comparison to in-person care or other treatment modalities, studies lacking comparison groups were eligible. The outcomes of interest were limited to

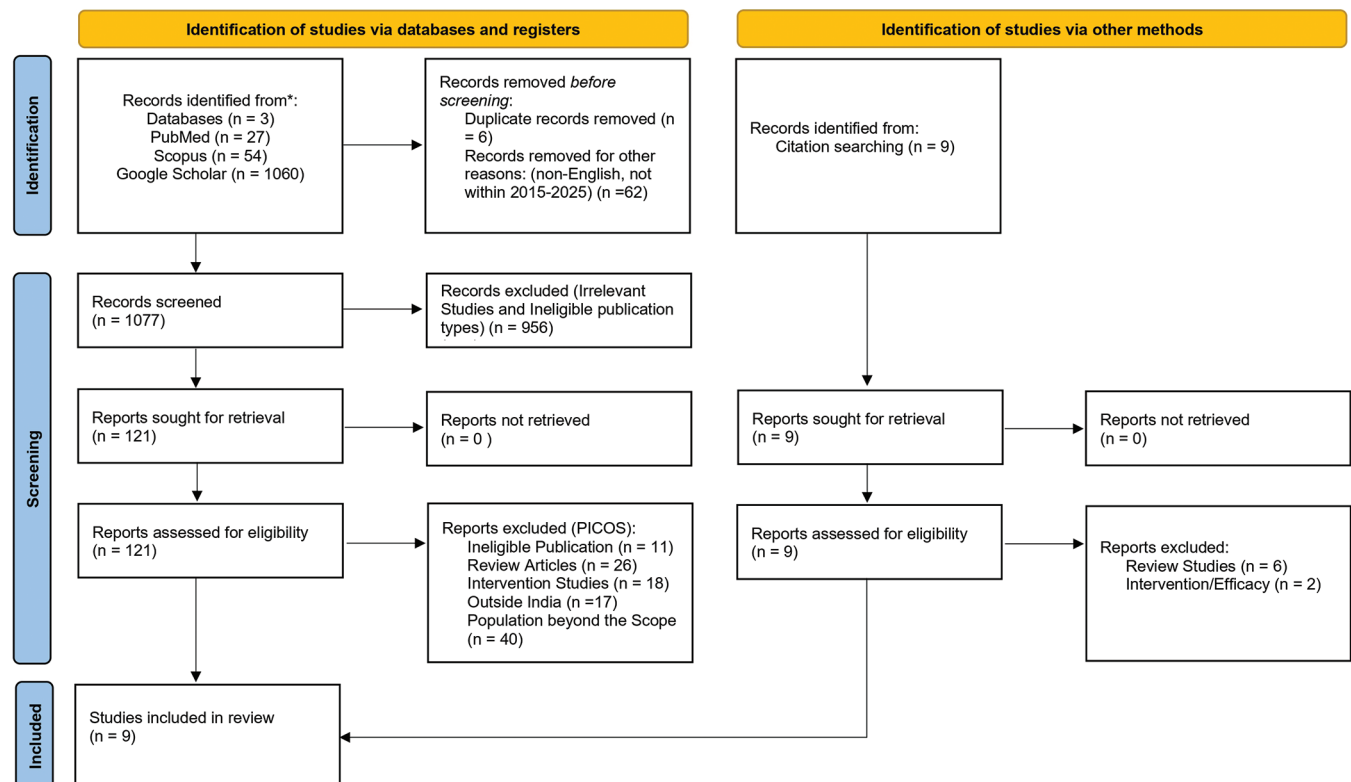


Figure 1: Flow diagram of study selection (Preferred Reporting Items for Systematic Reviews and Meta-Analysis flowchart). PICOS: Participants, Intervention, Comparators, Outcomes, Study Design

barriers, obstacles, and experiences related to the application and utilization of digital mental health modalities. Excluded were studies that reported intervention efficacy, treatment outcomes, symptom reduction, or clinical efficacy. Finally, only empirical studies reporting original qualitative, quantitative, observational, or mixed-methods data were included. Publication types such as conference proceedings, reviews, cases, animal studies, and protocols were not included in the study.

Data extraction

All the eligible studies were imported to Rayyan Systems, Inc., a software company headquartered in Cambridge, Massachusetts, USA.^[20] After removing the duplicates, an initial title and abstract screening was performed on all imported studies based on the PICOS criteria, and any discrepancies were resolved upon discussion between the two authors. Eligible studies were then screened for full-text articles, in which comprehensive data extraction was performed. Data were extracted manually for four domains: (1) study characteristics (authorship, year, and study design), (2) outcomes (experiences, challenges, and future implications), (3) participant demographics (profession and sample size), and (4) gaps and limitations.

Risk-of-bias assessment

Risk of bias was assessed using the Mixed Methods Appraisal Tool (MMAT, 2018^[21]), which is specifically designed for reviews including qualitative, quantitative, and mixed-methods studies.^[21,22] MMAT was selected due to the heterogeneity of study designs included in this review and its suitability for assessing methodological quality in nonintervention, experience-focused research. The tool allows for consistent appraisal across qualitative, quantitative descriptive, and mixed-methods studies without prioritizing intervention effectiveness or outcome comparison. The tool uses design-specific criteria and structured signaling questions, with responses recorded as yes, no, or cannot tell. No overall numerical score was calculated, in line with MMAT guidance.

Exploratory online survey

Following approval from the Institutional Review Board, an exploratory online survey was conducted among practicing clinical psychologists in India. Participants were recruited through professional networks and online communication channels using purposive sampling. The online survey included 50 clinical psychologists (44 females and 6 males) currently practicing in India. Inclusion criteria required participants to hold a qualification of at least M.Phil. in Clinical Psychology and to be actively providing psychotherapy through online or digital platforms at the time of data collection. Psychologists who were not engaged in online clinical work were excluded. Participants varied in terms of years of clinical experience, training background, and practice settings, including independent private practice and work associated with third-party online platforms. The focus on clinical psychologists was intentional, given a regulated professional status, comparable training background, licensing and regulatory requirements, supervision, and ethical responsibilities under Indian professional frameworks.

Data were collected using a semi-structured self-report questionnaire developed specifically for this study based on the literature review. The questionnaire covered the following domains: professional background and training, nature and extent of online psychotherapy practice, association with digital platforms, operational and clinical challenges, ethical and confidentiality concerns, access to supervision and peer support, difficulties related to licensing and continuing education requirements, perceived need for specialized digital tools, and suggestions for improving online psychotherapy services in India. The questionnaire comprised both closed-ended and open-ended items. Examples of closed-ended questions included participants' years of clinical practice, RCI registration status, average number of online sessions conducted per week, association with third-party online platforms, supervision practices, and perceived need for specialized online therapy tools. Open-ended questions explored participants' experiences regarding operational challenges in online psychotherapy, difficulties related to licensing and continuing rehabilitation education processes, and recommendations for improving online psychotherapy services in India. This combination enabled the collection of both descriptive information regarding practice patterns and richer accounts of clinicians' professional experiences. Information about the study was shared electronically using Google Forms, and interested individuals were provided with details regarding the purpose of the research and participation requirements. Informed consent was obtained before the participation. The questionnaire was administered online, and responses were collected anonymously.

Descriptive statistics were used to summarize demographic and practice-related variables, as well as responses to closed-ended items. Open-ended responses were analyzed using thematic categorization to identify commonly reported challenges and perceived needs. Findings from the online survey were interpreted alongside themes identified in the systematic review. The study adhered to ethical principles of voluntary participation, informed consent, confidentiality, and anonymity. Ethics approval was obtained from the Institutional Review Board. No identifying information was collected, and data were password-protected.

RESULTS

A total of 1077 records were identified through database and supplementary searches, including PubMed ($n = 27$), Scopus ($n = 54$), Google Scholar ($n = 1,060$), and citation searching ($n = 9$). Before screening, duplicate records were removed ($n = 6$), and records were excluded for other reasons, including non-English language and publication outside the 2015–2025 timeframe ($n = 62$). The remaining 1077 records were screened by title and abstract, of which 956 records were excluded due to irrelevance or ineligible publication types. Following screening, 121 reports were sought for retrieval, and all were successfully retrieved. A total of 121 full-text reports were assessed for eligibility.

Of these, 112 reports were excluded based on PICOS criteria, including population beyond the scope of this review ($n = 40$), review articles ($n = 26$), intervention or efficacy-focused studies ($n = 18$), studies conducted outside India ($n = 17$), and other ineligible publication types ($n = 11$). In addition, nine reports identified through citation searching were assessed separately, of which eight were excluded (review studies, $n = 6$ and intervention/efficacy-focused studies, $n = 2$). After screening, nine studies met the inclusion criteria and were included in the final review.^[23-31] The study selection process is illustrated in Figure 1, in accordance with the PRISMA 2020 guidelines. Detailed characteristics of the included studies are provided in Supplementary Table S1.

Over half of the participants had more than 10 years of clinical experience, indicating that online psychotherapy practice is not limited to early-career psychologists. Only 66% had a valid registration or license at the time of study. A substantial proportion of psychologists reported conducting more than 10 online sessions per week. Over one-third were associated with third-party platforms, reflecting the growing role of platform-mediated psychotherapy. While most participants reported some level of supervision or peer support, a notable proportion lacked consistent, structured professional support for online practice [Table 1].

Participants reported challenges across technological, clinical, and risk-related domains, requiring greater effort and adaptation compared to in-person practice.

Ethical and regulatory concerns were frequently endorsed across questions, with particular emphasis on confidentiality, documentation, and lack of clarity in regulatory expectations for online psychotherapy. The majority reported a lack of clarity and communication with respect to licensing and registration, with many stuck in administrative procedures, and reported that no one had been resolving their registration/licensing-related issues. Thirty-seven percent reported that the registration website did not work for them, while the majority also reported a lack of awareness and information about any new workshop or skill-based training.

Participants expressed a strong need for clinician-centric digital tools and targeted professional development to support ethical and effective online psychotherapy.

DISCUSSION

The present study sought to study the challenges and felt needs of clinical psychologists practicing online psychotherapy in India by integrating evidence from a systematic review of nine selected studies with findings from an exploratory online survey of 50 clinical psychologists practicing online psychotherapy. Both taken together, the results demonstrated recurring challenges related to online practice environments, professional support systems, regulatory processes, digital infrastructure, clinician-centric needs, professional guidelines, and the absence of supportive digital infrastructure in India.

Platform-mediated psychotherapy and the changing nature of clinical work

Across both the systematic review and the pilot findings, online psychotherapy emerged as an established mode of clinical practice. Several studies in the review documented the experiential challenges faced by therapists during the transition to online modalities, including difficulties with rapport formation, reduced access to nonverbal cues, and increased emotional and cognitive load, apart from Internet connectivity issues [Table 2].^[23,24] These concerns were echoed strongly in the pilot data [Table 3], where clinicians reported sustained effort in maintaining therapeutic engagement and managing clinical risk in remote settings. The literature also suggests that such challenges are amplified when psychotherapy is delivered through third-party platforms.^[31] Joshi *et al.*, in their study on online psychoeducation facilitators, highlighted how technological instability and platform constraints shape the therapeutic process itself.^[25] Similarly, Emran *et al.* described therapists' experiences of diminished professional autonomy during the transition to telepsychotherapy.^[24] The present online survey extends these findings by demonstrating that Indian clinical psychologists encounter similar constraints, particularly when platform structures prioritize efficiency and standardization over clinical flexibility.

Clinician-centric needs and professional strain

A consistent theme across the nine reviewed studies is the relative invisibility of clinicians' professional needs within digital mental health systems. Varyani *et al.* emphasized emotional labor, vicarious stress, and burnout as key concerns for therapists engaged in online work, yet offered limited discussion on systemic supports to address these issues.^[26] However, in the current study, stress and burnout were not explored. Another study by Agrawal *et al.* noted technical and workflow barriers but did not fully address the implications for long-term professional sustainability.^[27] The present pilot findings directly respond to these omissions. As shown in Table 4, a substantial proportion of Indian clinical psychologists reported limited access to consistent supervision and a strong need for clinician-oriented digital tools. These findings align with Ranga *et al.*,^[23] who observed that many therapists rely on informal peer learning when transitioning to telepsychotherapy, reflecting a broader absence of structured professional support available for clinical psychologists in India, which is concerning.^[23,32] Importantly, clinicians' expressed need for digital tools emerged directly from the practical challenges identified in their online work. Challenges related to documentation, risk management, supervision, and therapeutic monitoring suggest that digital innovation should be informed by clinician workflows rather than solely by service delivery requirements.

Ethical complexity, artificial intelligence, and digital tool design

Ethical concerns featured prominently across both components of the study. Participants in the online survey raised questions

regarding confidentiality, data privacy, informed consent, and boundary management in online settings [Table 4]. These concerns resonate with the broader ethical discourse on digital and AI-enabled mental health interventions.^[33] Beg and Verma, in their review of AI-based psychotherapy, cautioned against scripted empathy, lack of contextual sensitivity, and insufficient supervision mechanisms in AI-driven tools.^[28] Similarly, Thenral and Annamalai highlighted regulatory and accountability gaps, particularly in relation to transparency and long-term clinical implications.^[29]

While AI chatbots and digital tools are often promoted for their scalability and accessibility, both the reviewed studies and the pilot data underscore the importance of clinician involvement in tool development. Participants in the present study expressed a clear need for digital resources that support therapeutic exercises, assessment, documentation, and supervision, functions that are largely absent from existing platforms. This finding reinforces calls in the literature for user-informed and ethically grounded AI development that complements, rather than replaces, professional clinical judgment.^[28] Finally, adequate “guard rails” need to be established to control the behavior of AI (chatbots) within the limits of ethics and preferably a stepwise process of a therapeutic module. This can only be done with instructions or care of a trained mental health professional who should be involved in developing a controlled language model. One needs to be cautious and sensitive, especially in cases of suicide, while doing online therapy. For any software or third-party platforms, consent needs to be taken for transcriptions or recordings, which is usually skipped conveniently.

Regulatory and policy implications in the Indian context

The regulatory challenges reported by participants, mainly difficulties related to licensing renewal, credit requirements, and lack of clarity around online practice, must be situated within the Indian professional landscape. Studies examining telehealth adoption in India have identified infrastructural and policy-level barriers, but have largely focused on healthcare professionals broadly rather than licensed clinical psychologists specifically.^[30] The present online survey fills this gap by offering clinician-specific insights into how existing regulatory frameworks intersect with digital practice.

The findings suggest a misalignment between RCI-regulated professional requirements and the realities of online and platform-mediated psychotherapy. This misalignment is further complicated by recent educational reforms under the National Education Policy and ongoing debates regarding training pathways and workforce scarcity. Notably, none of the reviewed studies empirically examined how such regulatory changes affect clinicians’ experiences of online practice, underscoring the policy relevance of the present research.

Training and supervision reform

Both the systematic review and the pilot findings point to a pressing need for reform in training and supervision models.

Studies highlighted therapists’ reliance on self-directed learning and informal supervision during the shift to online practice.^[23,24,32] The pilot data corroborate these findings in the Indian context, with one-fifth of participants reporting no regular supervision or peer support [Table 1]. These findings suggest that online psychotherapy requires competencies that extend beyond traditional clinical training, including digital ethics, online risk assessment, and navigation of platform-based practice. Without structured training and supervision frameworks, clinicians are left to negotiate these complexities individually, increasing variability in practice and potential ethical vulnerability.

The study has several implications, first at the clinical practice level; there is a strong need for structured supervision models and peer support systems tailored to online psychotherapy. Second, at the training level, the curriculum needs to incorporate competencies related to digital ethics and AI-assisted tools.

Table 1: Professional and practice characteristics of the sample (*n*=50)

Variable	Category	<i>n</i>
Years of clinical practice	1–3 years	4
	3.1–5 years	3
	5.1–10 years	17
	>10 years	26
Highest qualification	Ph.D. and M.Phil.	25
	M.Phil.	25
RCI registration	Yes	33
	Yes, but needs renewal	15
	No	2
Average online sessions per week	1–5	12
	6–10	13
	11–15	10
	16–20	10
	21–30	5
Association with third-party platforms	Yes	19
	No	31
Supervision and peer support	Regularly	17
	Occasionally	23
	No	10
Need for specialized tools online	Yes	28
	No	6
	Sometimes	16

RCI: Rehabilitation Council of India

Table 2: Reported operational and clinical challenges in online psychotherapy (*multiple responses permitted*)

Domain	Commonly reported issues
Technological	Internet connectivity disruptions and platform limitations
Clinical process	Building therapeutic rapport, conducting assessments, and managing distractions
Risk management	Handling high-risk clients remotely
Session quality	Reduced nonverbal cues and environmental interruptions

Table 3: Ethical and regulatory concerns reported by participants

Area of concern	Description
Confidentiality and privacy	Data security and client environment concerns
Informed consent	Adequacy and clarity in online settings
Professional boundaries	Boundary management in digital contexts
Regulatory clarity	Uncertainty regarding documentation, legal accountability, and platform-based practice
Licensing and CREs/workshops	Difficulties with renewal processes and alignment with online practice, and no one responds to queries on calls/emails

CRE: Continuing rehabilitation education

Table 4: Perceived need for clinician-oriented digital tools and professional development (multiple responses were permitted)

Area of need	Examples
Therapeutic tools	Digital worksheets, digital tools, and platforms
Assessment support	Online screening and progress tracking
Documentation	Secure clinical notes and records
Supervision	Digital supervision and peer consultation tools
Professional development	Training in online psychotherapy skills, handling specific disorders (Trauma, addiction), ethics, and digital/AI tools

AI: Artificial intelligence

Third, at the policy level, clinician-informed guidelines are needed to support an ethical and sustainable online practice. Fourth, for digital tool and platform development, practicing clinical psychologists need to engage in the design of technology that supports and does not undermine ethical clinical work.

CONCLUSION

The study integrates evidence from a systematic review and an exploratory online survey, which revealed persistent gaps at the intersection of platform-mediated service delivery, clinician-centric support, professional guidelines, and digital tool design. The study also indicated the need for contextually informed regulatory guidance, structured training and supervision models, and development of ethical, clinician-informed digital and AI-based tools. Addressing these gaps in India is essential for the integrity, sustainability, and ethical foundations of online psychotherapy practice.

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Conflicts of interest

There are no conflicts of interest.

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Supplementary Table 1: Characteristics and Key Findings of Studies Included in the Systematic Review

Study (<i>n</i> =9)	Author	Year	Methods/study design	Population	Sample size	Primary outcomes	Results	Focus on challenges	Gaps
Facilitator lessons from online psychoeducational group for relational well-being in India during COVID-19 pandemic	Joshi, A.; Joshi, A.; Chatterjee, I.; Kantak, C.; Puntambekar, A.	2021	Qualitative reflective study based on facilitator reflections, session documentation, and observer notes from a therapist-facilitated online psychoeducational group	Mental health professionals (group facilitators) and adult participants experiencing relational distress in India	20 participants initially enrolled; ~50% attrition by end of program	To explore facilitator learnings, effectiveness, and challenges of delivering online psychoeducational group therapy	Facilitators reported that online delivery was feasible but required extensive preparation, role differentiation among facilitators, and continuous adaptation. While participants showed increased insight and reduced distress over sessions, technical disruptions, participant attrition, and challenges in maintaining group process integrity affected implementation. Effectiveness depended heavily on facilitator flexibility and participant technological readiness	Technical challenges (unstable Internet, gadget issues, disrupted breakout rooms) Managing multiple communication channels (video, audio, and chat) High attrition rate (~50%) Difficulty sustaining engagement over multiple sessions Gender imbalance in group composition (1 male:19 females) Privacy constraints in home environments Cultural and gender-role constraints affecting participation Online medium limiting free-flowing, unstructured interaction	No quantitative outcome measures Findings limited to facilitator perspectives Lack of comparison with in-person group therapy Sample drawn from privileged, urban population only No long-term follow-up of participants Limited generalizability beyond pandemic context
Artificial intelligence-based psychotherapy: A qualitative exploration of usability, personalization, and the perception of therapeutic progress	Beg, M. J.; Verma, M. K.	2025	Qualitative study using semi-structured interviews and thematic analysis (Braun and Clarke framework)	Users of AI-based psychotherapy apps in India (with and without clinical diagnoses) - With experiences of therapists	17 participants	To explore usability, personalization, emotional depth, therapeutic continuity, and perceived therapeutic progress in AI-based psychotherapy	Ten themes revealed a paradox between accessibility and therapeutic depth. While AI apps offered immediacy, anonymity, and structured support, users reported scripted empathy, fragmented therapeutic narratives, limited personalization over time, and overreliance on CBT frameworks. Algorithmic stagnation led to disengagement and an illusion of progress. Cultural microaggressions, linguistic mismatches, privacy ambiguities,	Scripted and repetitive empathy lacking dynamic emotional responsiveness Fragmented sessions due to lack of longitudinal memory Overreliance on CBT limiting emotional and trauma-focused work Algorithmic stagnation in personalization over time Illusion of therapeutic progress without meaningful change Cultural microaggressions and western-centric advice Linguistic limitations affecting contextual understanding Privacy concerns and mismatch between perceived versus actual data risk Passive coping encouraged over active problem-solving	Small sample size (<i>n</i> =17) Limited to Indian users aged 18-45 User-perspective only; no clinician evaluation No comparison with human-delivered therapy Short-term engagement focus; no longitudinal outcome assessment Limited insight into clinical effectiveness for severe psychopathology

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Supplementary Table 1: Contd...

Study (<i>n</i> = 9)	Author	Year	Methods/study design	Population	Sample size	Primary outcomes	Results	Focus on challenges	Gaps
Transition to telepsychotherapy: Experiential perspective of debutant therapists	Ranga, G.; Khandelwal, N.; Jha, M.; Sharma, V.	2025	Qualitative exploratory cross-sectional study using semi-structured telephonic interviews and thematic analysis	Novice psychotherapists (M.Phil Clinical Psychology graduates) in India with telecounseling experience	15 trainees	To explore the experiences of debutant psychotherapists in training and implementation of telepsychotherapy	and ethical concerns regarding AI-induced dependency and crisis handling further limited therapeutic effectiveness Implementation posed substantial clinical, technical, supervisory, and ethical challenges. Rapport building was difficult, especially in audio-only sessions. Technological disruptions interrupted emotional disclosure and therapeutic flow. Limited access to nonverbal cues affected clinical assessment. Sudden patient dropouts disrupted continuity of care. Lack of immediate supervision left trainees unsupported during complex sessions. Conducting therapy from personal spaces blurred professional boundaries, while screening high-risk clients remotely proved challenging. Ethical concerns emerged around privacy, confidentiality, and unauthorized recording of sessions	Emotional dependence and anthropomorphizing of AI Ethical dissonance in handling self-harm and crisis disclosures Difficulty in rapport formation Connectivity and technical disruptions Limited access to nonverbal cues Patient dropouts without notice Lack of immediate supervision Interference with therapist's personal space Challenges in screening suitability for teletherapy Ethical concerns (privacy breaches, session recording without consent)	Small sample size Restricted to novice therapists only No comparison with experienced clinicians No patient outcome assessment Limited to Indian training context Absence of longitudinal follow-up

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Supplementary Table 1: Contd...

Study (n=9)	Author	Year	Methods/study design	Population	Sample size	Primary outcomes	Results	Focus on challenges	Gaps
Psychotherapists' experience of the transition to telepsychotherapy amid COVID-19 in India	Emran, A.; Smith, J. A.; Iqbal, N.	2023	Qualitative idiographic study using in-depth interviews and interpretative phenomenological analysis	Novice psychotherapists in India licensed by RCI and providing telepsychotherapy	10 psychotherapists	To explore lived experiences of novice psychotherapists transitioning to telepsychotherapy during COVID-19	Rapid transition to telepsychotherapy negatively impacted the therapeutic process and their professional self. Key challenges included diminished quality of therapeutic relationship due to lack of nonverbal cues and technological disruptions, difficulty ensuring privacy in clients' home environments, and inability to effectively employ certain therapeutic techniques (e.g., behavioral, exposure-based, couples and child therapy). Telepsychotherapy was perceived as ill-suited for specific client groups. Therapists experienced professional undermining through boundary violations, frequent cancellations, and casual client behavior, leading to professional self-doubt and reduced psychological well-being. These challenges were compounded by lack of prior training and supervision in telepsychotherapy	Difficulty building rapport and perceived superficial therapeutic alliance Limited access to nonverbal cues and embodied presence Technical glitches disrupting session flow Privacy and confidentiality issues in clients' home settings Difficulty applying behavioral, exposure, couples, and child-focused techniques Telepsychotherapy perceived as unsuitable for certain client populations Boundary challenges (out-of-session contact, cancellations, casual engagement) Professional undermining and loss of role authority Professional self-doubt and reduced self-efficacy Emotional fatigue, burnout, and poor work-life balance	Small, homogeneous sample (novice therapists only) No inclusion of experienced psychotherapists No client perspectives included Context limited to the COVID-19 period Lack of longitudinal follow-up Findings not generalizable beyond qualitative context

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Supplementary Table 1: Contd...

Study (<i>n</i> =9)	Author	Year	Methods/study design	Population	Sample size	Primary outcomes	Results	Focus on challenges	Gaps
Acceptability and feasibility of assisted telepsychiatry in routine healthcare settings in India: A qualitative study	Nadkarni, A <i>et al.</i>	2023	Qualitative study using in-depth interviews and thematic analysis	Assisted telepsychiatry services in primary care settings in Goa, India (includes therapists perspectives)	20 interview participants (nested within program <i>n</i> =126)	To examine acceptability and feasibility of an assisted telepsychiatry model integrated into routine healthcare	Some patients struggled to communicate over a screen due to unfamiliarity with technology. Poor and inconsistent Internet connectivity disrupted sessions. Travel to primary care facilities, although shorter than tertiary care, still posed financial and logistical burdens for some patients, particularly women dependent on family members for transport. Stigma around mental health continued to affect uptake, including reluctance to receive home visits. Availability and cost of prescribed medications created barriers, as medications were not provided free of charge. Digital divide, privacy concerns, and inability to respond to emergencies or conduct physical assessments were identified as systemic limitations	Difficulty communicating via video for some patients Digital literacy barriers and unfamiliarity with technology Poor or unstable Internet connectivity Financial and logistical barriers to travel Gender-related access constraints Persistent mental health stigma affecting service uptake Reluctance to home visits due to privacy and social concerns Medication availability and out-of-pocket costs Inability to conduct physical examinations or manage emergencies remotely Unequal access to digital infrastructure	Findings based on patient perspectives only Small qualitative sample size Limited generalizability beyond Goa No direct assessment of clinician experiences No controlled comparison with face-to-face care Lack of long-term implementation outcomes
An exploratory evaluation of implementing a rapid-response online mental health service during the COVID-19 pandemic: A mixed-methods study from India	Agrawal, R. <i>et al.</i>	2024	Mixed-methods study (clinician survey, in-depth interviews, focus group discussion, and process evaluation)	Volunteer mental health professionals (psychologists, psychiatrists, counselors) delivering online care	40 clinicians (survey); 14 clinicians (interviews); 63 clinicians delivered services	To assess the acceptability and feasibility of a rapid-response online mental health platform	Session time constraints due to platform limits and technical delays Poor and inconsistent Internet connectivity disrupting the therapeutic flow Frequent call drops affecting rapport and	Technical barriers Digital literacy issues Therapeutic alliance limitations Ethical and boundary challenges Platform design constraints Client engagement and commitment	No service-user interviews Digital exclusion of individuals without Internet/devices Emergency context limits generalizability Short-term engagement focus

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Study (<i>n</i> = 9)	Author	Year	Methods/study design	Population	Sample size	Primary outcomes	Results	Focus on challenges	Gaps
							crisis management Shift to audio-only or telephone sessions due to bandwidth issues Difficulty interpreting nonverbal cues, especially when video was off Challenges establishing rapport and maintaining session quality High rates of client no-shows and late cancellations Reduced client commitment attributed to <i>pro bono</i> nature of service Platform usability issues and interface inconsistencies Client unfamiliarity with digital platforms requiring clinician orientation Automatic session termination due to “no-show” feature Difficulty tracking frequent platform updates and new features Ethical dilemmas when clients sought long-term or private therapy Challenges with follow-up sessions and continuity of care Language barriers affecting therapist–client matching Unequal distribution of cases due to “fastest-finger-first” allocation		No long-term clinical outcome assessment

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Supplementary Table 1: Contd...

Study (<i>n</i> = 9)	Author	Year	Methods/study design	Population	Sample size	Primary outcomes	Results	Focus on challenges	Gaps
“Staying power:” Determining what keeps online counselors devoted to their jobs	Varyani, V.; Kodwani, A. D.; Pandey, J.	2025	Quantitative survey study with regression, mediation and moderation analysis	Online counselors working with Indian mental health organizations	270 online counselors	To examine factors influencing turnover intention among online counselors	Online counselors experience high emotional and psychological demands due to continuous exposure to client trauma Emotionally demanding digital work contributes to stress and turnover intention Managing client trauma in online settings increases vulnerability to vicarious trauma New digital work arrangements create uncertainty regarding job stability and professional identity High job demands without adequate organizational support increase turnover intention Lack of supportive organizational culture exacerbates counselors’ intention to leave Emotional labor in online counseling roles is a significant stressor Organizational culture acts as a critical buffer against stress and turnover Career commitment mitigates turnover intention despite work-related challenges Online counselors constitute a “traumatized workforce” requiring targeted organizational support	Emotional labor and vicarious trauma High job demands in digital counseling roles Risk of burnout and turnover intention Organizational culture deficiencies Career instability in digital mental health work	Focused only on turnover intention, not clinical effectiveness No qualitative exploration of lived experiences Self-report measures only Limited to organizationally employed counselors

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Study (n = 9)	Author	Year	Methods/study design	Population	Sample size	Primary outcomes	Results	Focus on challenges	Gaps
Challenges of building, and deploying, and using AI-enabled telepsychiatry platforms for clinical practice among urban Indians: A qualitative study	Thenral and Annamalai	2020	Qualitative exploratory study conducted between February–April 2020, following COREQ guidelines. Data were collected using semi-structured telephonic interviews	Four stakeholder groups from urban India: Psychiatrists using telepsychiatry platforms Patients receiving telepsychiatry services Technology experts involved in building AI-based telepsychiatry platforms CEOs of health technology incubation centers involved in evaluating and supporting such platforms	n=46 participants Psychiatrists: n=14 Patients: n=14 Technology experts: n=13 CEOs of incubation centers: n=5	Identification of perceived challenges in building, and deploying, and using AI-enabled telepsychiatry platforms for routine clinical practice in India, from multiple stakeholder perspectives	The most frequent overarching theme was ethical, legal, accountability, and regulatory issues, followed by challenges related to data, health system infrastructure, technology, knowledge gaps, AI-related limitations, clinical practice, human resources and skills, and attitudes toward AI. The study presents a detailed thematic framework with frequencies of themes and categories across stakeholder groups	Ethical, legal, accountability, and regulatory: lack of AI-specific telepsychiatry guidelines; privacy and confidentiality concerns; security and hacking risks; ethical concerns in automated evaluation; data ownership ambiguity; unclear legal liability Data-related: Low sample size with high predictors (low-N and high-P); lack of common data schemas and standards; lack of data on minority populations; absence of validated digital biomarkers; emergence of new data types (text, voice, images, and social media); unstructured qualitative data; missing values and inconsistencies AI-related: black box algorithms; lack of clinical validation; algorithmic bias; large data requirements for training AI Clinical practice: Fear of flawed algorithms leading to misdiagnosis or missed diagnosis and iatrogenic risk; problems in patient–provider relationships; low computer literacy among patients and providers Health system infrastructure: financial issues; urban–rural differences; cultural and language barriers; regional variation; inequalities in access to care Technology: Lack of devices; software development and maintenance issues; connectivity problems	Highly relevant for our study absence of AI-specific telepsychiatry guidelines in India

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Supplementary Table 1: Contd...

Study (<i>n</i> = 9)	Author	Year	Methods/study design	Population	Sample size	Primary outcomes	Results	Focus on challenges	Gaps
Determinants of telehealth adoption in the Indian healthcare domain: An exploratory study	Chowdhury, A.	2021	Exploratory sequential mixed-methods study, including qualitative interviews and quantitative survey	Healthcare professionals across multiple Indian states (medical and allied health professionals)	12 qualitative interviews; large-scale survey of healthcare professionals (exact <i>n</i> varies by model testing)	To identify drivers and barriers influencing telehealth adoption by Indian healthcare professionals	Lack of standardized telehealth guidelines, policies, and procedures Absence of strong state leadership and regulatory clarity Inadequate ICT infrastructure, especially in rural and remote areas Poor and inconsistent Internet connectivity Limited organizational readiness for telehealth implementation Insufficient training and awareness among healthcare professionals Low patient awareness and acceptance of telehealth services Communication barriers between stakeholders (providers, organizations, government) Technology-related issues affecting reliability and usability Concerns about data security, privacy, and confidentiality Resistance to change from traditional face-to-face care models Unequal access to digital resources contributing to the digital divide	Human resources and skills: Need for reskilling and training; lack of interdisciplinary experts Attitudes and perception: Existential threat perception; fear of replacement; lack of awareness about AI among doctors Policy and regulatory barriers Infrastructure and technology limitations Organizational and leadership challenges Professional awareness and training gaps Communication and coordination issues Cross-sectional design limits causal inference Telehealth adoption examined broadly, not modality-specific (e.g., psychotherapy vs. psychiatry) Rapid evolution of ICT may affect long-term relevance	