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Psychotherapy and artificial intelligence: the limits of technology in the promotion of mental health

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Abstract

The integration of artificial intelligence in psychology has been growing significantly, although bioethical issues related to this practice remain underexplored. This study aims to analyze the bioethical and biolegal challenges, including those related to the American Psychological Association's Code of Ethics, concerning the use of artificial intelligence in psychotherapy. This critical article addresses the topic from a reflective perspective. Two main categories were developed: "Artificial intelligence and psychotherapy: functionality, integration, and application" and "Bioethical challenges and limits in the integration of artificial intelligence in psychology." The nature of these interventions was analyzed, highlighting their potential risks and benefits, as well as the ethical boundaries involved. It is concluded that the integration of artificial intelligence into psychotherapy practice presents risks and limitations that require further studies, increased scrutiny, and discussion by the scientific community and professionals in the field.

Keywords: Artificial intelligence. Bioethics. Psychology. Confidentiality. Privacy.

Resumo

Psicoterapia e inteligência artificial: limites tecnológicos na promoção da saúde

A integração da inteligência artificial (IA) na psicologia tem registrado um crescimento significativo, porém as questões bioéticas associadas ainda são pouco discutidas. Este ensaio crítico analisa os desafios bioéticos, biojurídicos e os que se relacionam com o Código de Ética do Profissional da Associação Americana de Psicologia no contexto do uso de inteligências artificiais para psicoterapia. Duas categorias principais foram desenvolvidas: "Inteligência artificial e psicoterapia: funcionalidade, integração e aplicação" e "Desafios e limites bioéticos na integração da inteligência artificial na psicologia". O ensaio examina o caráter dessas intervenções, destacando seus riscos e benefícios potenciais, bem como os limites éticos envolvidos. Conclui-se que a integração de inteligências artificiais na psicoterapia apresenta riscos e limitações que demandam estudos mais aprofundados e maior atenção e discussão por parte da comunidade científica e dos profissionais da área.

Palavras-chave: Inteligência artificial. Bioética. Psicologia. Confidencialidade. Privacidade.

Resumen

Psicoterapia e inteligencia artificial: límites tecnológicos en la promoción de la salud mental

La integración de la inteligencia artificial en psicología ha crecido significativamente, aunque las cuestiones bioéticas relacionadas con esta práctica siguen siendo poco exploradas. Este ensayo crítico analiza los desafíos bioéticos y biojurídicos, así como aquellos relacionados con el Código de Ética del Profesional de la Asociación Americana de Psicología respecto al uso de inteligencias artificiales en psicoterapia. Se desarrollaron dos categorías principales: "Inteligencias artificiales y psicoterapia: funcionalidad, integración y aplicación" y "Desafíos y límites bioéticos en la integración de la inteligencia artificial en la psicología". Este ensayo analizó la naturaleza de estas intervenciones destacando sus posibles riesgos y beneficios, así como los límites éticos involucrados. Se concluye que la integración de inteligencias artificiales en psicoterapia presenta riesgos y limitaciones que requieren estudios más profundos, además de una mayor atención y debate por parte de la comunidad científica y los profesionales del área.

Palabras clave: Inteligencia artificial. Bioética. Psicología. Confidencialidad. Privacidad.

The authors declare no conflict of interest.

Research

With the growth of social media and technological advancements of the 21st century, the integration of psychology, behavioral sciences, and artificial intelligence (AI) has become an inherent reality [1,2]. Despite significant contributions of this integration, such as expanding access to psychotherapy, ethical and moral concerns have emerged. These include potential violations of the American Psychological Association (APA) Ethical Principles of Psychologists and Code of Conduct, as well as challenges to the principles of bioethics and biolaw [3].

Central concerns involve both positive and negative impacts on patients and psychologists, in addition to use of data for marketing purposes and the still limited understanding of AI-driven interventions, often perceived as a form of inauthentic psychotherapy. In this context, bioethical principles such as beneficence and non-maleficence are strained by risks including algorithmic biases and inaccurate automated decision-making, while justice is questioned in terms of accessibility and equitable distribution of these technologies [4,5]. Within this framework, Holohan and Müller [6] introduce the concept of significant otherness, highlighting the relevance of alterity and the recognition of patients' singularity in AI-assisted psychotherapies.

From the perspective of biolaw, the growing application of AI in psychotherapy requires strict oversight regarding privacy, confidentiality, and security of personal data, in accordance with regulations such as the Brazilian General Data Protection Law (LGPD) [7] and the General Data Protection Regulation (GDPR) [8]. Critical aspects such as informed consent, the protection of sensitive information, and transparency in algorithmic operations are essential to ensure patients' rights [3,9]. Thus, this study presents a critical analysis of the bioethical implications of employing AI in psychotherapy, exploring bioethical principles, the importance of alterity, and legal challenges that accompany this innovation.

Method

Study design

This critical essay addresses the main bioethical issues related to the integration of AI in psychotherapy, drawing on a reflective analysis of the available literature. This methodology enables an in-depth evaluation of various studies on the subject, with the aim of discussing the ethical challenges and implications of incorporating AI technology into psychology.

Sources of information and search strategy

Searches were conducted in the PubMed, Scopus, Web of Science, and SciELO databases in January 2025, using the terms "artificial intelligence," "psychotherapy," and "bioethics OR ethics."

Inclusion and exclusion criteria

Articles published in scientific journals from 2020 to 2025 were included, published in English, Spanish, and Portuguese, and focused on ethical, bioethical, and legal aspects of integrating AI into psychotherapy. Articles that were not aligned with the primary objective were disregarded.

Screening and study selection

After data collection, articles selected in the first screening stage were fully examined. Disagreements between evaluators were resolved by consensus or, when necessary, with the intervention of a third reviewer.

Data analysis and synthesis

After screening, the full-text articles were downloaded, and their data were organized and coded using QSR NVivo 15 for Windows [10]. The analysis followed Bardin's content analysis method, which included the thematic categorization of data and its interpretation to identify recurring patterns and trends [11]. Data synthesis was conducted narratively, emphasizing the main findings and exploring their relationship with bioethical issues surrounding the use of AI in psychotherapy. This strategy aimed to identify patterns, contrasts, and gaps in the studies evaluated [12]. Additionally, two researchers (SRI and LFG) performed independent analyses and codifications, grouping the recording units into units of meaning (key concepts), which were then consolidated into thematic categories.

Table 1. Thematic categories

Central thematic unit	Thematic categories	Units of meaning (examples)	Evidence in the articles
AI and psychotherapy: functionality, integration, and application	Clinical efficacy	Chatbots increase therapeutic adherence [13]	12/17 articles (70.6%)
		Limitations in artificial empathy [14]	
	Digital therapeutic alliance (DTA)	Replication of relationships via personalization [15]	9/17 articles (52.9%)
		Lack of emotional depth [6]	
Bioethical challenges and limits	Autonomy and informed consent	Algorithmic opacity compromises decision-making [16]	14/17 articles (82.4%)
		Need for accessible language [17]	
	Data protection and legal compliance	Risk of digital phenotyping under LGPD/GDPR [18]	11/17 articles (64.7%)
		Lack of robust encryption [19]	

Results and discussion

In this section, the main findings on the implementation of AI in psychotherapy are discussed, organized into thematic categories derived from the content analysis of the 17 articles analyzed. The articles originate from regions such as Europe, North America, and Asia; no Brazilian studies meeting the inclusion criteria were identified.

Ethical implications of using AI in psychotherapeutic practice were highlighted, addressing both its positive and negative impacts on psychologists and patients. The categories developed reflect the main bioethical debates and challenges discussed in the literature, including: "AI and psychotherapy: functionality, integration, and application" and "Bioethical challenges and limits in the integration of AI in psychology." Moreover, subcategories were defined to explore specific issues, such as "Potential violations and guidelines of the American Psychological Ethical Principles of Psychologists and Code of Conduct" and "Legal implications." This structure enables a more detailed analysis of normative and legal boundaries associated with the implementation of this technology in clinical settings.

AI and psychotherapy: functionality, integration, and application

The use of AI in psychotherapy is rapidly evolving, providing new tools to improve mental health while simultaneously introducing significant challenges. Grodniewicz and Hohol [14] identify three main obstacles: the first, termed "confused therapist," emphasizes the difficulty of AI in understanding specific emotional nuances; the second, "non-human therapist," underlines its limitations in interpersonal relationships and the absence of genuine empathy; and the third, the "narrow-intelligence therapist," demonstrates the limited ability of AI in providing comprehensive and integrated interventions. Alfano and collaborators [13], as well as Khawaja and Bélisle-Pipon [16], recognize the role of AI in expanding access to psychological treatments, particularly within vulnerable communities, but caution against associated risks, including excessive standardization and the potential loss of humanization in care.

Alfano and collaborators [13] note that, as a result of the COVID-19 pandemic, there has been a notable increase in the number of companies offering psychotherapy services powered by AI. These companies have made access to psychotherapy more flexible by removing barriers such as geographical limitations, vulnerability, and associated costs. Although the data provided by these companies is restricted, they indicate that the most frequent users are between 16 and 25 years old—a demographic that has grown up immersed in technology and experienced its large-scale adoption during the pandemic.

The growing demand for AI-mediated psychotherapy, particularly among adolescents, is associated with factors such as discomfort

in sharing events and emotions with human psychologists, familiarity with digital platforms, and the ability to overcome physical and economic barriers. However, despite these benefits, fundamental aspects of psychological practice, including therapy dropout rates and the lack of an appropriate therapeutic environment, raise significant concerns. Among these concerns are the financial interests of companies, limited evidence supporting the effectiveness of such services, and the absence of humanized qualities in chatbots, such as empathy and confidentiality. Furthermore, questions have been raised about how these algorithms operate, especially regarding the criteria used to assess service quality and potential transformations in the labor market [13].

Chatbots are already being implemented in applications that use algorithms to detect linguistic patterns indicative of suicide risk and depression among young adults and adolescents. In this context, AI stands out for its ability to process large volumes of data within minutes, while the therapeutic process itself still relies heavily on the psychologist and on the intrinsic value of human relationships in intervention and patient interaction [13]. The quality of AI-mediated therapeutic relationships is, therefore, crucial. Malouin-Lachance and collaborators [15] introduce the concept of digital therapeutic alliance, emphasizing the emerging tendency to form therapeutic bonds via digital interactions—provided these are personalized, responsive, and adaptable to the patient's emotional history. However, such digital interactions merely reproduce traditional therapeutic mechanisms, manifesting in ways that differ significantly from human interactions, especially in terms of emotional depth.

Holohan and Müller [6] expand this discussion with the concept of significant otherness, arguing that AI-mediated therapeutic experiences can have a considerable emotional impact when the technology is designed with digital empathy, adaptive interactivity, and affective language. They suggest that, in this context, the relationship between patient and AI can be compared to the psychoanalytic concept of transference, in which the patient's emotional projections onto the technology should be further explored in in-depth studies and critically assessed by psychologists and researchers.

Within the scope of practical innovations, Özden [3] investigates the potential of AI-driven immersive therapies, which encompass augmented reality, simulated environments, and personalized sensory interventions, highlighting their effectiveness in treating phobias, trauma, and anxiety disorders. Zhang [2] emphasizes the importance of real-time emotion recognition, detailing how AI algorithms—by analyzing variations in language, tone of voice, and facial expressions—make interactions more responsive, adjusting dialogue according to the emotions detected. Dehbozorgi, Zangeneh, Khooshab, Nia, and Hanif [17] reinforce the need for technological co-creation, arguing that the active participation of psychotherapists and patients in the development of these tools is essential to ensure greater adherence, trust, and safety, thus preventing ethical failures in the design of such interventions.

Thus, advancements in AI within psychotherapy present both significant opportunities and challenges. This implies not only the development of algorithms that are more attentive to the emotional context of patients, but also the adoption of ethically appropriate practices that include continuous human supervision, transparent auditing of algorithmic processes, and ethical training for professionals in the field. Moreover, it is essential to encourage longitudinal studies to analyze the long-term effects of AI-assisted therapies, ensuring they increase technological efficiency and preserve emotional safety and the quality of psychotherapeutic care.

Bioethical challenges and limits in the integration of AI into psychology

The incorporation of AI into psychotherapy raises profound bioethical questions, particularly regarding biomedical ethics principles established by Beauchamp and Childress [5]. These principles include: autonomy, which upholds the patient's self-determination and ability to make informed decisions; beneficence, which requires the active promotion of the patient's well-being; non-maleficence, which imposes the

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obligation to avoid causing harm; and justice, which demands a fair and equitable distribution of benefits and risks.

Autonomy is a central pillar in therapeutic relationships, encompassing the patient's right to make informed decisions free from coercion or manipulation. Khawaja and Bélisle-Pipon [16] and Zhang [2] state that AI can undermine this principle by generating a misleading perception of therapeutic bonding, especially when the role of technology in the interaction is not made explicit. Informed consent is a crucial aspect: Dehbozorgi and collaborators [17] highlight that it must be transparent, accessible, and understandable, preventing misunderstandings about the limitations and capabilities of AI. Holohan and Müller [6] also indicate that the opacity of algorithms undermines the patient's understanding of processes guiding automated decisions. Therefore, to promote autonomy, AI platforms must adopt practices such as algorithmic transparency, adaptive consent, and the use of clear and accessible language. This commitment to digital self-determination reinforces the patient's role as an active agent in their therapeutic process.

The principle of beneficence involves the active promotion of the patient's well-being, while non-maleficence imposes the duty to avoid harm. Stoll and collaborators [4] and Grodniewicz and Hohol [14] warn that, although AI expands access to therapy, biased algorithms or those trained with limited data can actually cause more harm than benefit. This includes inappropriate or potentially harmful interventions, as well as the perpetuation of stigma and prejudice. Additionally, Özden [3] emphasizes that the lack of proper supervision in immersive therapies may lead to emotional discomfort or technological dependency.

Moreover, ethical concerns arise regarding the use of AI: Dehbozorgi and collaborators [14] point out that automated systems that provide diagnoses without human validation can create false expectations or inappropriate treatments. Another issue is that insufficient personalization in AI interactions can lead to generic responses, thereby compromising the quality of care, as suggested by Holohan and Müller [6]. To mitigate these risks, it is essential to implement algorithmic auditing practices, continuous testing, and human monitoring of automated decisions. The integration of safety protocols, AI training with representative data, and ongoing validation of the effectiveness of digital therapies is therefore crucial to ensure compliance with the principles of beneficence and non-maleficence.

Justice in bioethics requires that the benefits and risks of AI in psychotherapy be equitably distributed, promoting accessibility and inclusion [2]. In this regard, Bhatt [20] and Gutierrez and collaborators [21] argue that justice is achieved when technological innovations reach different social groups, preventing disparities in access. Grodniewicz and Hohol [14] warn that algorithms trained with homogeneous data may perpetuate racial and cultural inequalities, underscoring the need for diverse and auditable datasets. Stoll and collaborators [4] also emphasize that digital inequalities, such as limited internet access, intensify the exclusion of vulnerable groups. Therefore, justice demands a multidimensional perspective, considering the social, cultural, and economic impacts of AI in psychotherapy.

Alterity, understood as the recognition of the other's singularity, is fundamental to create meaningful therapeutic relationships [6]. Tavory [9] also argues that AI should be developed with "response-ability," that is, the ability to respond sensitively to individual subjectivities. Dehbozorgi and collaborators [17] further note that the lack of cultural diversity in algorithms can result in insensitive interactions, thereby reinforcing stereotypes and social stigmas rather than fostering truly inclusive care.

Potential violations and guidelines in the Psychology Ethics Code

The Ethical Principles of Psychologists and Code of Conduct of the APA guide psychologists to provide diagnoses only after a thorough patient evaluation. This creates a gray area, as the code does not specify whether the use of AI in clinical practice is ethically acceptable. However, the APA does allow psychologists to adopt such technologies, provided they clarify the limitations of these methods and explain how these constraints may affect the reliability and validity of their conclusions [1].

Regarding confidentiality, privacy, and informed consent, psychologists must inform patients that their privacy may be at risk, especially when data are used for marketing purposes. Explaining

potential harms and the intended purpose of data usage is also essential, ensuring that informed consent is obtained clearly and transparently. It is important to note that such practices do not comply with the 1996 Health Insurance Portability and Accountability Act, which may compromise patient privacy. APA also underscores that using social media to evaluate patients can lead to the excessive use of irrelevant information, especially when these platforms are analyzed via AI-based tools [1].

Although chatbots offer personalized services—including unlimited access regardless of time or location, consideration of cultural and personal characteristics, and integration of approaches such as cognitive-behavioral therapy (CBT) and psychoanalysis—they still present limitations. These include potential user exploitation, algorithmic biases in advice, and therapeutic features that may cause harm, all of which can lead to therapeutic misconception (TM) when misunderstood or overlooked [14].

TM, a widely discussed topic in bioethics, refers to the overestimation of AI's ability to provide adequate, ethical, and effective therapeutic support. This misconception can arise in four ways: by means of inaccurate marketing, the formation of a digital therapeutic alliance, improper chatbot design, and limitation of user autonomy [14].

Furthermore, the lack of genuine empathy in chatbots, stemming from their absence of emotional capacity, may harm users and prevent the formation of a therapeutic bond, which is fundamental in psychotherapy. While AI systems can recognize and stimulate emotions and vulnerabilities, they may also put vulnerable and minority groups at risk of harm and unrealistic expectations [9]. Without a human psychologist, there is no development of trust or shared decision-making, which can compromise patient autonomy [3,14]. Moreover, although AI tools may demonstrate short-term effectiveness, they often fail to produce positive long-term outcomes. Issues such as memory retention can affect the continuity of the therapeutic process [3].

Legal implications

Regarding legal challenges and data protection, Gerke and collaborators [18] emphasize that the use of AI in mental health must comply with regulatory frameworks such as LGPD and GDPR. They emphasize the importance of implementing strict protocols for the collection, storage, and processing of sensitive data. Jin and collaborators [19] indicate that the risks associated with continuous data collection by conversational agents and telepsychology platforms are high, especially when unauthorized information sharing occurs. Stoll and collaborators [4] further stress the need for clear consent policies and robust encryption measures to protect patient confidentiality.

Dehbozorgi and collaborators [17] warn of the risks of digital phenotyping—the analysis of digital patterns to infer the patient's emotional state—and recommend that these systems comply with LGPD and GDPR guidelines. Gerke and collaborators [18] advocate for algorithmic audits to ensure that secondary data use is properly regulated. Holohan and Müller [6], as well as Grodniewicz and Hohol [14], highlight that the complexity of AI systems can make the consent process less transparent, hindering patients' understanding of the risks involved in the use of these technologies in digital therapies. Stoll and collaborators [4] suggest the adoption of interactive and adaptive consent forms capable of clearly informing patients about how the technologies are implemented.

These reflections highlight that the ethical use of AI in psychotherapy goes beyond mere technological innovation; it requires practices centered on human rights, with a focus on responsibility, empathy, and inclusion. It is critical that the development of AI systems includes participatory processes, involving psychotherapists, patients, and bioethicists to ensure that bioethical principles are practically and effectively applied. Legal and data protection challenges underscore the need to balance technological innovation with respect for patients' fundamental rights. Aligning technological advancements with regulatory compliance will be crucial to ensure ethical and safe AI-mediated psychotherapeutic practices.

The success of these technologies will be measured not only by their technical efficiency but also by their ability to promote dignity, safety, and patient-centered care. Additionally, clear regulation and the establishment of interdisciplinary committees to continuously assess the ethical impacts of AI are essential. This ensures

that technological advancements contribute to a truly ethical psychotherapeutic practice.

Final considerations

The implications of AI use in psychotherapy, analyzed under ethical, legal, and relational dimensions, reveal the complexity of this advancement and its fundamental challenges. AI has the potential to democratize access to psychotherapy and personalize interventions. However, Grodniewicz [14] and Dehbozorgi and collaborators [17] warn of the risk of illusory therapeutic bonds and limitations of algorithms in understanding the complexity of human experiences. The analysis under bioethics principles exposes the following dilemmas: the threat to autonomy posed by opaque consent [16], risks to beneficence due to algorithmic biases [4], and inequalities in access to technology, compromising justice [20]. Concurrently, Gerke and collaborators [18] and Jin and collaborators [19] emphasize the urgency of complying with the LGPD and GDPR, highlighting that informed consent and data protection are non-negotiable pillars for ethical AI use in healthcare.

Holohan and Müller [6], as well as Tavory [9], emphasize that, to respect alterity, AI must be designed with "response-ability," i.e., responding sensitively to users' cultural and emotional singularities. Bhatt [20] reinforces the importance of diversity in datasets to prevent cultural biases.

AI systems designed for mental health services are still at early stages and should not replace human psychologists. Instead, they should be used as tools to expand intervention capacities, especially in areas such as human memory limitations, professional workload, and the rapid identification of early signs of mental health issues, including suicidal ideation and depressive episodes [2,3,16]. Therefore, to prevent the normalization of excessive reliance on these technologies and reduce impacts related to the pursuit of social support, it is essential to consistently highlight that AI does not replace human psychologists [13].

Government investment in mental health services, along with multidisciplinary collaboration among psychologists, AI developers, and legal practitioners, is crucial to establish regulations that protect users' rights with transparency and clarity. Moreover, it is essential to improve AI systems so that they adapt to cultural, social, and economic differences. It is also recommended that these services offer the option of human support in crisis situations and for more complex care needs.

The integration of AI into psychotherapy will only be ethically appropriate and effective if it combines technological innovation with ethical and legal responsibility. It is imperative that practices be regulated, transparent, and centered on respect for human dignity, seeking a balance between technical potential and human care that defines psychotherapy. Thus, it can be concluded that AI should not replace services provided by psychology professionals, but rather be used as complementary tools. It is necessary to uphold ethical principles, protect patient rights, and ensure humanization in clinical care.

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Contribution of the authors (CRediT)

Sophia Ivantes Rodrigues participated in study conception, data collection, and writing of the manuscript. Marília da Mata Silva participated in study conception. Lucas França Garcia participated in study conception and writing of the manuscript. Leonardo Pestillo de Oliveira participated in writing of the manuscript. All authors worked in data analysis and critical review of the manuscript.

Data availability: All data used or generated in this study are described and presented in full in the body of the article.

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