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REVIEW PAPER

# Artificial Intelligence in Psychiatry: Assistant or Successor? – a review on the feasibility of replacing Psychiatrists with Artificial Intelligence

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## *Abstract*

**Background**: This research aims to examine the potential of artificial intelligence (AI) within the field of psychiatry and to evaluate the potential for modern technologies to supplant psychiatric specialists in the future. Present applications of AI in the diagnosis, therapy and monitoring of patients are presented, considering both the advantages and limitations of these solutions. Ethical, social and legal aspects related to the employment of artificial intelligence in psychiatric care are also discussed.

**Material and Methods**: The paper is based on a review of the scientific literature. A total of 16 publications addressing the application of artificial intelligence in psychiatry were selected and examined using keywords related to artificial intelligence and psychiatry. Relevant studies were identified, and key concepts extracted, systematized, and analyzed to address the research objectives.

**Results**: Research on the use of artificial intelligence in psychiatry is limited and not yet fully explored, as the implementation of AI in medicine, particularly in psychiatry, remains a relatively new and developing field. The analyzed studies provide insight into current applications of AI in psychiatric diagnostics, therapy, and patient monitoring. Despite promising progress, the findings consistently emphasize that although AI offers valuable support in clinical practice, it cannot replace human psychiatrists, particularly in areas requiring empathy, emotional sensitivity, and complex interpersonal relationships.

**Conclusions**: Artificial intelligence can support psychiatrists in data analysis, early diagnosis, and personalized treatment, but it cannot replace the human element of empathy and patient care. Ethical and legal challenges also limit its full implementation, so AI should be viewed as a supportive tool rather than a substitute for specialists.

**Keywords**: artificial intelligence, clinical decision-making, psychiatry, artificial intelligence in medicine, future of psychiatry

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## *Introduction*

In recent years, artificial intelligence (AI) has become one of the most important trends in contemporary medicine, encompassing applications ranging from diagnostic imaging to clinical decision support. In the field of mental health, the development of AI is particularly noteworthy due to the increasing need for psychiatric services and the shortage of specialists. There are growing assertions that AI may eventually take over some of the duties of psychiatrists, or even replace them entirely. However, before accepting such a possibility as plausible, it is essential to analyze not only the unquestionable benefits, but also the limitations of the technology.

## *Methodology*

An extensive search on PubMed, Google Scholar, Science Direct, ClinicalKey and EBSCO was performed, using key terms, such as AI, machine learning (ML), artificial wisdom, psychotic disorders, affective disorders, autism spectrum disorder, therapeutic robots, biomarkers, advantages, disadvantages, limitations, future, risks, opinions. The search involved various permutations and combinations of terms. Relevant references were then selected, and information was collected from these sources as key concepts. These concepts were systematized and discussed.

## *Artificial intelligence*

### History of artificial intelligence

The history of AI can be traced back to the 1950s, when scientists began to investigate whether machines were capable of thinking like humans. In 1956, at the Dartmouth Conference, John McCarthy used the term "artificial intelligence", which is considered to be the beginning of this discipline. The initial years brought optimism as well as the first programmes, such as symbolic reasoning systems. Then the 1990s and 2000s introduced new advancements, including the victory of the Deep Blue computer over chess champion Garry Kasparov (1997) and the development of ML [1]. A breakthrough occurred in the era of deep learning during the 2010s, when computing power and data accessibility enabled AI to achieve remarkable successes, such as AlphaGo's win over the champion Go player (2016) [2]. Currently, AI is ubiquitous, ranging from speech recognition to autonomous vehicles and advanced data analysis.

## Definitions

Artificial intelligence represents one of the most rapidly expanding and pervasive technologies in the world. Despite its growing significance, a singular, universally accepted definition has yet not been developed [3].

The first definition of AI was proposed by McCarthy in 1956. It defined AI as "the science and engineering of making intelligent machines" [4:2]. Nowadays AI is defined in various ways. One of the definitions of AI is "The imitation of all human intellectual abilities by computers" [3:20]. "[...] the computer scientist Nils John Nilsson describes a technology that 'functions appropriately and with foresight in its environment'. [...] A similar definition has been put forward by the High-Level Expert Group on Artificial Intelligence (AI HLEG) of the European Commission (EC): 'Systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals'" [3:16]. As technology and research in AI progress, its definition will continue to evolve, adapting to new developments and challenges.

## Concepts

To gain a deeper understanding of AI and its capacity for making intricate decisions, it is essential to examine its operational procedures.

A fundamental element of AI is ML. This is a sub-discipline of AI that involves designing computer algorithms capable of automatically improving their performance based on experience. ML algorithms develop models based on training data: a collection of instances from which the system learns to recognize patterns, predict outcomes or make decisions [5].

One of the more advanced mechanisms is the neural network. A neural network is a form of supervised ML. In this mechanism, data passes through a sequence of interconnected neurons, which are responsible for weighing and modifying information at every phase of analysis. The neural networks allow conclusions to be drawn from intricate and ostensibly unrelated data, rendering an exceptionally potent instrument for tasks including image recognition, text analysis, and classification [5].

A more advanced approach is deep learning, which evolved from the development of artificial neural networks. Systems based on deep learning systems comprise three or more layers of neurons that facilitate the progressive extraction of increasingly sophisticated features from the original input data. This makes it possible to generate results categorized or predicted with greater precision [5].

Core mechanisms such as ML, neural networks, and deep learning form the foundation of contemporary AI. Their ability to analyze complex datasets has enabled their widespread use across numerous disciplines, particularly in healthcare and psychiatry, where they support diagnosis, treatment planning and patient monitoring. The following section explores the growing influence of AI in clinical practice.

## Artificial intelligence in medicine

Artificial intelligence is assuming an increasingly significant role in medicine, revolutionizing the way diagnosis, treatment and healthcare management are implemented. Through advanced algorithms and analysis of extensive data sets, AI is assisting doctors in making more precise judgments and enhancing medical outcomes. The application of AI is exerting a wide-ranging impact on diverse areas of medicine, including diagnosis, therapy, surgery and medical data management.

### Diagnostics of diseases

One of the most significant applications of AI in medicine is disease diagnosis. Algorithms learnt from medical images demonstrate the ability to detect diseases, such as cancer, heart disease or tissue abnormalities, with a precision that frequently surpasses human diagnostic abilities. More specifically, the application of AI in the analysis of X-rays, CT scans or MRIs enables early detection of diseases, which is essential to the effectiveness of treatment [5].

### Personalized therapy

Artificial intelligence significantly contributes to the healing process, especially in personalizing treatment. By analyzing medical data, including patients' medical histories and responses to various treatments, intelligent systems can customize treatment to meet the specific needs of particular patients. AI makes it possible to precisely select pharmaceuticals and optimize dosages, enhancing the effectiveness of therapy and minimizing the risk of side effects [1].

### Medical data management

Artificial intelligence is also helping with medical data management. AI algorithms automate the analysis of patient records, which improves administrative work in hospitals and other healthcare institutions. Through the use of AI, medical information can also be better organized and processed, improving the efficiency of healthcare management [1].

## *Application of artificial intelligence in psychiatry*

Mental disorders are a growing challenge for health care systems. According to the World Health Organization (WHO), depression is one of the leading causes of global disability, and the number of people suffering from anxiety disorders is consistently increasing [6]. In conventional psychiatry, diagnosis and therapies mainly rely on subjective clinical evaluations, which can lead to potential mistakes. AI offers a new approach, based on the analysis of multidimensional clinical data, allowing a more objective and precise assessment of the patient's condition.

### Extraction and characterization of psychiatric features

Machine learning algorithms are being used to analyze psychiatric datasets, making it possible to identify significant traits of various mental disorders. By analyzing patient data, such as neuropsychological test results, clinical interview records, linguistic patterns and behavioural activity information, AI is able to detect subtle differences between different mental disorders. For instance, a study conducted by Dipnall et al. [7] involving over 5,500 patients with depression resulted in identifying over 250 biomarkers supporting accurate diagnosis [6,7]. Similarly, Abbas et al. [8] team used AI to analyze data on children at risk of autism spectrum disorder (ASD), which led to a significant enhancement in sensitivity and specificity of diagnosis compared to traditional screening techniques [6,8]. This application of AI enables earlier identification of disorders and better customization of therapeutic strategies to individual patients.

### Detection of biomarkers in psychiatry

One of psychiatry's major challenges is the identification of objective biomarkers that can assist in the diagnosis and prognosis of mental illness. Psychiatric biomarkers can range from neurobiological indicators to behavioural or psychophysiological data. AI, in conjunction with neurobiological analysis, is opening up new possibilities in this area, by enabling more precise monitoring of changes in brain structure and function. For instance, research into Alzheimer's disease (AD) has used AI models to analyze magnetic resonance imaging (MRI) results. The established "AD pattern similarity score" enables a more precise evaluation of patients' cognitive function and prediction of disease risk. Moreover, AI algorithms are being used to analyze electroencephalographic (EEG) recordings to detect subtle patterns of neuronal activity associated with depression, schizophrenia or bipolar affective disorder, among others [6,9]. This approach not only

increases the efficiency of diagnosis, but also makes it possible to predict patients' responses to particular therapies.

### Real-time monitoring and automated interventions

Contemporary AI technologies are supporting the development of real-time mental health monitoring instruments. The use of mobile devices makes it possible to collect behavioural and psychophysiological data, allowing for real-time tracking of a patient's mental state and early detection of deterioration. For example, the MindLAMP app analyzes data from questionnaires, cognitive tests and activity sensors [6]. AI algorithms can analyze changes in sleep habits, physical activity levels or communication patterns, so that patients and therapists can automatically receive alerts of potential risks of relapse. Moreover, technologies for facial recognition, speech analysis and activity patterns can support the diagnosis and treatment of disorders such as depression, schizophrenia, ADHD, ASD and addiction disorder. AI systems can also predict psychotic episodes or depressive relapses based on analysis of patients' behavioural patterns, providing the opportunity to implement interventions at an early stage.

### Therapeutic robots and digital interventions

Artificial intelligence is also finding applications in modern forms of therapy, such as therapeutic robots. These robots are capable of performing actions of psychological support and assisting traditional treatments by analyzing patient interactions. For instance, a robot Woebot, an AI-based chatbot that employs natural language processing (NLP) algorithms, is programmed to conduct therapeutic conversations. Woebot analyzes patients' emotional state, to monitor mood and support cognitive-behavioral therapy (CBT). Other therapy robots, such as Nao and Kaspar, are designed to support therapy for children with ASD. With the ability to interact in a predictable and repetitive manner, they help children develop social and emotional skills. Kaspar uses simple gestures and speech to teach communication, while Nao helps develop interpersonal skills through play [6]. Research indicates that such solutions might increase patient engagement in therapy and improve its effectiveness. Furthermore, AI is being used to create virtual therapists and platforms to support CBT, making psychological help more accessible to people who have difficulty receiving traditional care.

## *Artificial intelligence in the management of mental disorders*

### Mood disorders: depression and bipolar affective disorder

Major depressive disorder (MDD) and bipolar disorder (BD) are among the most commonly diagnosed mental disorders. Due to the subjective nature of diagnosis, misdiagnoses are common – as many as 60% of BD cases are initially misclassified as MDD, resulting in a delay in appropriate treatment by an average of 10 years. AI is helping to improve diagnostic accuracy through the use of genomic analysis and neuroimaging methods. A study by Sun et al. used deep learning algorithms to analyze genetic variants in psychiatric patients, effectively distinguishing healthy individuals from depressed patients. Furthermore, Rubin-Falcone's research showed that the use of MRI and support vector machine algorithms can accurately distinguish MDD from BD. With these methods, AI can improve diagnostic accuracy. AI also significantly contributes to therapy support and relapse prevention. Examples include mobile apps such as Woebot and Tess, which support patients in managing emotions and reducing symptoms of depression [6]. By monitoring users' behavioural patterns, AI algorithms can tailor interventions, increasing the effectiveness of psychological support.

### Autism spectrum disorders (ASD)

Early diagnosis of autism is crucial for effective therapy, although conventional diagnostic methods frequently fall short. AI can be used to analyze neuroinflammatory pathways and genetic mutations associated with ASD, which increases the sensitivity and specificity of screening tests. Social robots, such as Kaspar, are increasingly used to help children in cultivating social skills [6]. These robots offer predictable and personalized interactions, so they can increase the effectiveness of therapy compared to traditional methods. However, the robots' restricted adaptability and the peril of technological dependency continue to pose substantial concerns.

### Schizophrenia and psychotic disorders

Artificial intelligence supports both the early diagnosis of schizophrenia and forecasts its progression. ML algorithms are being used to analyze MRI data to distinguish schizophrenia patients from healthy individuals with high accuracy [6]. Furthermore, AI makes it possible to monitor relapse risk based on data from mobile devices, analyzing changes in patients' physical activity and sleep patterns. One of the therapeutic breakthroughs is avatar therapy, developed at the Institute of Psychiatry, Psychology & Neuroscience at King's College London. It is used for patients suffering from persistent

auditory hallucinations that do not resolve despite pharmacological treatment. As part of the therapy, patients, along with a therapist, create a computer avatar representing the voice from the hallucination – its manifestation, sound and speech content. During therapy sessions, the patient carries on conversations with the avatar, gradually learning to take control of it and weaken its influence. Clinical studies conducted on a group of 150 patients have shown significant effectiveness of this method. After 12 weeks, patients in the avatar therapy group experienced notable improvement, and in seven patients the hallucinations completely disappeared (compared to two people in the control group). The effects also persisted after 24 weeks, confirming the long-term effectiveness of the therapy [10].

## *Advantages and disadvantages of artificial intelligence*

### Advantages

Among the many advantages of integrating AI into psychiatry, one of the key benefits is the development of intelligent self-assessment systems. These systems, designed to monitor symptoms evolution, treatment progress and medication compliance, are helpful in supervising a patient's condition and assessing risks in a timely manner. AI models have tremendous clinical potential in selecting personalized treatment for patients. AI can convey the most suitable treatment by analyzing data related to a patient's diagnosis, preferences, and treatment progression [6].

The development of telemedicine, supported by AI-based tools, enables patients to receive psychiatric care without the need for physical presence at a medical facility. This solution is particularly important for those living in areas with limited access to specialists and for patients requiring immediate support [4,6]. AI is being used in various applications, chatbots and online platforms that provide patients with anonymity and unlimited access, enabling them to interact with mental health support systems.

A breakthrough in this field has been the use of chatbots in therapy sessions. Chatbots, based on advanced NLP algorithms, can provide patients with basic psychological support, monitor mood, and refer them to appropriate specialists when alarming symptoms are detected [6].

### Disadvantages

Despite the many benefits, there are several significant risks associated with implementing AI in psychiatric care. One of the fundamental challenges of using AI is the lack of full transparency in the operation of the algorithms. The term "Black Box" used in the scientific literature, refers

to the fact that even creators of models based on deep ML cannot fully explain the rationale behind AI decision-making and therefore the mechanism by which AI would make a diagnosis is unknown [6,11]. This may result in misdiagnoses and unsuitable treatment measures, obstructing the rectification of errors. An instance is the deployment of Watson technology at UB Songdo Hospital in Mongolia, where the technology recommended a patient a drug contraindicated for his condition [11]. The issue of responsibility for mistakes made by AI in diagnosis remains unsettled.

The effectiveness of AI-based systems is predominantly contingent upon the quantity and quality of the data utilized in their training. An insufficient or unrepresentative sample may lead to the model's inability to adjust to real-world conditions – with the risk of under-fitting, on the one hand, and over-learning the model, on the other, limiting its ability to make accurate predictions based on new data. Attaining the right balance between these phenomena requires careful calibration and repeated testing of the model. Consequently, drawing definitive conclusions from small data sets is unjustifiable, as it poses a significant risk of inaccuracies and misrepresentation [6].

Artificial intelligence algorithms require large amounts of patient data to be processed, which raises significant data privacy concerns. Improper data management could lead to data leakage or unauthorized use. There is also a risk that AI will be used to manipulate data or unknowingly share confidential information [4,6].

Another risk is the potential over-attachment of patients to interaction with AI-based tools at the expense of traditional therapy sessions. Certain research suggest that psychiatric patients may prefer AI interviews due to the anonymity they offer and the absence of subjective assessments. The absence of perceived judgement may make patients feel more comfortable interacting with an algorithm than with a human professional [4,6]. This phenomenon may result in patients disengaging from professional engagement, thereby adversely affecting treatment quality, therapeutic outcomes, and the long-term capacity to cultivate healthy interpersonal relationships [12].

## Limitations of AI use in psychiatry

Artificial intelligence is widely used in medicine, especially in disciplines such as radiology, cardiology and dermatology. Its effectiveness derives from its ability to analyze extensive data sets characterized by reproducibility and objectivity [1,13]. The application of AI in the field of psychiatry faces significant difficulties, which stem from the very nature of

psychiatry and the traits of its patients [13]. Principal obstacles include the subjectivity of the input data, its restricted availability and the frequent co-occurrence of various disorders.

One of the challenges of using AI in psychiatric diagnosis is the subjectivity and variability of clinical data. Diagnoses derived from the DSM classification are mainly based on clinically observable behaviours and heterogeneous symptoms. Patients sharing the same diagnosis may present different symptoms, both in terms of type and severity. Furthermore, many psychiatric disorders share common clinical features and overlap. The comorbidity of disorders is fraught with the risk of subjective bias, potentially resulting in misattribution of symptoms to specific diagnoses [13,14].

Psychiatric databases are small and not very standardized [1214]. These challenges arise from the diversity of data collection methods, individual differences among patients, and the lack of standardized, readily accessible datasets.

It is also important to note that the results contained in these databases are often generalized on an international scale, despite significant differences in the level of digitization and data collection quality between high-income countries and those with fewer resources. In highly developed countries, healthcare digitization is more advanced, resulting in a larger quantity and higher quality of data available for analysis. In contrast, in less developed countries, access to digital systems is limited, which leads to a lower representation of these populations in the databases. Consequently, cultural diversity and the unique characteristics of various populations may be reflected to varying degrees, which poses a risk that AI models based on such data may lack sensitivity to cultural and regional contexts – potentially affecting the accuracy of diagnoses and therapeutic recommendations. Currently, the main types of data are demographics, diagnoses, medications, procedures, self-report questionnaires and clinical visits notes [13]. Standardization of psychiatric information is a challenge, which significantly hinders effective teaching of AI models.

## Emotions and relationships, and the application of artificial intelligence in psychiatry

Artificial intelligence lacks the ability to experience emotions or form interpersonal relationships the way humans do [6]. This is a feature that can be both beneficial and problematic in terms of its application in psychiatry.

On the one hand, AI systems are immune to human factors such as stress, fatigue or emotional involvement, eliminating the risk of errors due to the

mental strain on the specialist [4,6]. Moreover, the lack of subjective feelings enables AI to conduct patient interviews in an impartial and non-judgmental manner. AI can also analyze data systematically and quickly, allowing it to detect patterns in patients' behavior and better predict their mental state [6,15].

However, emotions play a key role in the therapeutic process [15]. Psychotherapy relies not only on the content of speech, but also on subtle emotional signals, such as tone of voice, facial expression and body language. A human therapist can read a patient's emotions and adjust their response in a way that enhances a therapeutic relationship [12]. AI, despite its advanced algorithms, is not able to feel emotions or spontaneously adjust to dynamic changes in a patient's emotional state the way human does. As a result, the patient may feel misunderstood, which, in some cases, can even lead to mental deterioration [15]. Emotions are also essential in establishing trust. Patients often expect the therapist to show empathy, which reinforces a sense of security and comfort. A lack of emotional responsiveness in AI can lead to a sense of distance and coldness in the interaction, which can undermine the effectiveness of therapy [12].

## *Future prospects – will artificial intelligence replace the specialist?*

Artificial intelligence is undoubtedly one of the fastest growing technologies in the world, hence presenting novel opportunities within the psychiatric field. With the growing accessibility of medical data and the development of ML algorithms, questions are being raised about the future of the psychiatry profession and the possibility of AI replacing it. AI has the potential to revolutionize diagnosis and treatment of mental problems; but, can it entirely supplant medical specialists? The purpose of this article is to analyze why AI, despite its enormous potential, is unable to replace psychiatrists.

### Patient-psychiatrist interactions: the role of empathy

Successful psychiatric practice relies on the therapeutic relationship between patient and psychiatrist. Although AI can analyze linguistic and behavioural patterns, it cannot establish an empathic relationship with the patient and will not replace direct contact with the psychiatrist [6,12,15]. Psychiatric interventions are based on interpersonal relationships, empathy and the ability to grasp the patient's unique subjective experience – competencies that are inaccessible to AI technology [12,15]. Intuition and the ability to understand emotions are essential in diagnosing mental disorders, making the psychiatrist a key part of the treatment process. It is in this aspect that human interaction remains irreplaceable.

## The role of psychiatrists in managing crisis situations

Psychiatrists often face challenging and crisis situations that require the ability to make decisions rapidly and adapt. Psychiatrists not only provide treatment, but also act as emotional support for patients during difficult times, which requires understanding and appropriate responses to a patient's changing needs in real time. Although AI can help monitor symptoms and predict risks, it is incapable of making decisions in situations that require empathy, intuition and adaptability. AI is unable to provide the same level of support that is crucial in crisis situations [12,15].

## Ethical and regulatory issues

The effectiveness of machine-learning algorithms in psychiatry faces significant challenges, such as their vulnerability to reproducing cognitive errors and biases contained in training data [6]. Systems based on black box models suffer from a lack of transparency, making it impossible to fully understand the decision-making process [6,11]. This poses a serious ethical and clinical problem, especially in psychiatry, where the consequences of diagnostic mistakes can have serious long-term effects on patients. Furthermore, the issue arises as to a patient's entitlement to contest an AI-generated diagnosis and the appropriate procedures for such a challenge [11].

Automated AI-based systems also pose serious risks related to patient data privacy. AI systems are vulnerable to various forms of cyber threats, including hacking attacks that may lead to exposure of medical data [6,15]. Such incidents have serious repercussions, not only legally and ethically, but also personally; they violate patient rights and can lead to unauthorized use of information. Data concerning psychiatric patients is exceptionally sensitive, and its revelation may undermine trust in the mental health system, dissuade treatment, and significantly impair quality of life.

The main issues requiring regulation are the lack of transparency in AI operation and the resulting difficulty in assigning responsibility for diagnostic errors, as well as the patient's right to challenge a diagnosis. Equally important is ensuring the patient's informed consent to the inclusion of AI systems in the clinical decision-making process [6,11]. Regulations concerning the use of personal data also remain unresolved, further complicating the implementation of AI in clinical practice. All these matters remain unregulated in many jurisdictions.

A breakthrough step in this area was taken by the European Union on August 1, 2024, when it adopted comprehensive legal frameworks regulating the use of AI. The new regulations classify AI systems according to the level of risk they pose to users: unacceptable risk, high risk, limited risk,

and minimal risk. According to these regulations, AI used in healthcare is classified as a high-risk system. This means that the use of such solutions requires a number of conditions to be met, including ensuring transparency, protection against errors and cyber threats, as well as guaranteeing human oversight over the decision-making process. To implement the principle of transparency, there is a requirment to disclose that the content was generated by an AI system and to publish summaries of copyrighted data used to train these systems. By comparison, in the United States, there are currently no federal regulations directly governing the use of AI – only the Food and Drug Administration (FDA) approves selected AI solutions as medical devices. In China, AI is actively promoted but it requires strict oversight – systems used in the medical sector must be registered and tested before deployment.

## Trust in the patient-psychiatrist relationship

The trust that develops between patients and psychiatrists during treatment is one of the key aspects in the effectiveness of the psychiatric treatment process. This trust is the foundation of the therapeutic relationship, enabling the patient to open up about difficult topics, express emotions and grapple with deep, personal experiences. The connection that develops through such interaction creates a space for the shared search for solutions in the context of psychiatric challenges. AI, despite its advancement in complex human relationships, cannot fully meet these fundamental requirements [6,12].

## Artificial intelligence as a future assistant to the psychiatrist

In the forthcoming years, AI is poised to become an integral part of psychiatric practice, acting as an intelligent assistant to support both the diagnostic and therapeutic processes. With the ability to process and integrate a variety of data sources – from brain imaging to digital mental health indicators to NLP – AI systems can contribute to significant improvements in diagnostic accuracy and personalization of treatment [6].

Virtual reality combined with AI algorithms can enable dynamic and adaptive therapeutic scenarios tailored to the individual needs of patients with anxiety disorders or PTSD. At the same time, the development of digital tools that monitor mental status in real time, based on data from mobile apps or wearable devices, opens the way for early intervention and continuous therapeutic surveillance [16].

AI can also assist psychiatrists in building predictive clinical models to identify the risk of mental disorders, forecast their progression and evaluate the effectiveness of interventions. In this context, NLP tools are gaining

particular relevance, enabling the detection of subtle changes in patients' language that may correlate with psychopathological conditions [6].

Simultaneously, AI can significantly increase the availability of psychiatric care in populations with limited access to specialists. Chatbots and digital assistants capable of initial mental status assessment, psychoeducation and basic emotional support could be valuable additions to traditional models of care. However, further data standardization, interdisciplinary collaboration, and the development of an ethical and regulatory framework for its use in clinical settings are needed for AI to serve as a trusted and safe assistant to psychiatrists [6,12].

## *Results*

This article discusses a limited number of studies addressing the use of AI in psychiatry. A literature search was conducted across PubMed, Google Scholar, Science Direct, ClinicalKey, and EBSCO, focusing on publications from the years 2016 to 2025. The topic of the use of AI in psychiatry remains relatively new and underexplored, for instance, a search in PubMed using our selected keywords for the years 2016–2025 resulted in only 11 relevant results. Approximately 40 articles were initially reviewed. However, many of them repeated the same core content and frequently cited identical foundational studies. These overlaps, along with the tendency to draw similar conclusions and rely on shared theoretical assumptions, reflect the early developmental stage of AI implementation in psychiatry. As a result, 16 articles were selected as the most relevant and representative for addressing the research question posed in this paper. These articles provided insight into the current applications of AI in psychiatric diagnostics, therapy and patient monitoring. Despite being published over a span of several years, they consistently support the view that while AI offers valuable support in clinical practice, it cannot replace human psychiatrists.

## *Conclusion*

Artificial intelligence holds significant potential in supporting psychiatrists, especially in data analysis, early diagnosis and treatment personalization. However, the findings of this review indicate that although AI can meaningfully enhance psychiatric practice, it cannot replace the human element essential to empathy and patient relationships. Ethical and legal challenges also limit its full implementation. AI should be seen as a supportive tool, not a substitute for a specialist.

### *Declaration*

This article was prepared with the assistance of artificial intelligence. AI-based tools were used for language editing and grammatical correction. All core ideas, analytical reasoning, and intellectual input were conceived and developed independently by the authors.

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