



Contents lists available at ScienceDirect

Journal of Medicine, Surgery, and Public Health

journal homepage: www.sciencedirect.com/journal/journal-of-medicine-surgery-and-public-health

Artificial Intelligence and the Dehumanization of Patient Care

ARTICLE INFO

Keywords:

Artificial Intelligence
Physician-Patient Relations
Empathy
Health Communication
Patient-Centered Care
Healthcare Disparities

ABSTRACT

The integration of artificial intelligence (AI) into healthcare is rapidly transforming patient care, offering numerous advantages in diagnostics, efficiency, and clinical decision-making. However, this technological shift raises significant concerns about the potential erosion of the doctor-patient relationship, a cornerstone of effective medical practice. AI's increasing role risks depersonalizing healthcare, as the emphasis on data-driven decisions may overshadow the empathy, trust, and personalized care traditionally provided by human clinicians. The "black-box" nature of AI algorithms further exacerbates this issue, as the lack of transparency in AI decision-making processes can undermine patient trust. Additionally, AI systems trained on biased datasets may inadvertently widen health disparities, particularly for underrepresented populations. While AI has the potential to streamline routine tasks and reduce the burden on healthcare providers, it is essential to ensure that these advancements do not come at the cost of the human connection vital to patient care. To address these challenges, future research and development should focus on creating AI systems that enhance, rather than replace, the compassionate aspects of healthcare. This balanced approach is crucial to preserving the integrity of the doctor-patient relationship while harnessing the benefits of AI, ultimately ensuring that technological progress aligns with the core values of medical practice.

Artificial intelligence (AI) has gained application in healthcare across various domains of health services, diagnostics, documentation, decision-making, patient care, cancer care, and non-clinical domains like administration, logistics, and management [1,2]. Rapid integration of AI into healthcare is driven by the large amount of data generated in healthcare through electronic health records and the advancement in computing power [3]. The potential of AI to improve healthcare is undeniable; however, the growing dependence on AI-powered systems may lead to the erosion of doctor-patient interactions.

Erosion of Doctor-Patient Relationship

Verbal communication, non-verbal gestures, emotions and empathy are fundamental to the doctor-patient relationship [3]. High-level interpersonal relationships, especially empathy, are essential to building trust when people seek medical care [4]. AI systems have limited ability to understand and reciprocate human emotions and different dimensions of health – social, psychological, biological and spiritual [4]. Consequently, it leads to weakened empathetic interactions essential to maintain therapeutic relationships between doctors and patients. Furthermore, these reduced values - empathy, sympathy and compassion, in AI-powered healthcare results in a depersonalized and dehumanized experience.

AI-powered systems are third parties in the doctor-patient relationship and may threaten the autonomy of doctors and patients in making decisions. Doctors may be pressured to follow AI-generated recommendations, losing trust in their clinical judgment and compromising the care they provide [5,6]. Closely, patients may also lose trust in their physicians [5,6], recognizing these systems as the decision-makers. Subsequently, there is a loss of the shared decision-making and the

autonomy of patients and doctors, a pillar of modern medical practice [7].

Integration of AI-powered telemedicine systems erodes the sense of connection that thrives in physical engagements. Patients perceive these online interactions as less personal and caring [8]. The potential for distractions during virtual consultations is high, raising concerns about providers' focus on their patients [8]. Establishing new relationships in a virtual space may be challenging as patients grapple with trust, privacy, and confidentiality, which are essential elements of a strong doctor-patient relationship.

The black-box nature of many AI algorithms further compounds the loss of trust. The processes through which AI systems make decisions are not transparent or understood by physicians, patients and AI researchers [9]. This further erodes trust in such systems and healthcare providers who rely on them. The development and research into explainable AI may mitigate the 'black box' paradox in the future; however, maintaining trust and human connection in an AI-driven health system is a problem that provides opportunities for further research and innovation.

AI algorithms are usually trained on large datasets that may not capture the uniqueness of minority groups, outliers, and their needs; hence, they are generalized on all scenarios and problems. This creates an inherent bias when using these systems and depersonalizes medical care, particularly for individuals whose conditions do not align with the majority [9]. Currently, the use of AI-powered systems standardizes medical care, exacerbates the erosion of the doctor-patient relationship and may widen health disparities [9].

Proponents of AI suggest that AI can improve doctor-patient relationships by allowing physicians to focus on patient care while AI automates routine tasks such as documentation. Dehumanization may be beneficial in certain aspects of providing care. Palmer and Schwan

<https://doi.org/10.1016/j.glm.2024.100138>

Received 25 August 2024; Received in revised form 26 August 2024; Accepted 26 August 2024

Available online 30 August 2024

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(2022) argued that AI systems can reduce the impact of shame in care delivery. In people with disability, dementia and neurodegenerative diseases, the use of chatbots and AI-powered systems may provide an interaction or environment where they feel less judged and are willing to engage more in processes that lead to wellness [10]. However, this does not overshadow the loss of human elements of healthcare. Although AI has the potential for the transformation of healthcare, the effect on the erosion of doctor-patient interaction (empathy, trust, personalized care) poses a challenge which must be addressed through research into designing AI systems that strengthen doctor-patient relationships and framework for implementing AI systems for optimal doctor-patient interaction, for integration into clinical practice.

From Compassionate Care to Transactional Encounters

The adoption of AI in healthcare is changing the way medical services are delivered [11]. While AI offers to revolutionize healthcare by enhancing efficiency, cost-effectiveness, and accuracy, there is growing concern that this transition might weaken the compassionate, personalized care that has traditionally defined patient-provider interactions [12].

Compassion is an essential fabric of care and an important ethical foundation of all healthcare professionals [13]. Compassionate care is frequently defined in the literature as a deep awareness of the suffering of oneself and others, coupled with a determined resolve to take action to alleviate that suffering [14]. Another perspective describes compassion as a deep feeling of connectedness with the experience of human suffering, requiring intimate knowledge of the experience of others, evoking a moral response to the recognized suffering that results in caring that brings comfort to the sufferer [15]. It involves addressing not only patients' physical ailments but also their emotional and psychological needs. In the healthcare sector, the care concept often includes healing, therapy, medication, or the pathological aspects of the body or mind and includes a holistic approach that considers the entire person [16]. Human intelligence, marked by deep understanding, emotional empathy, and nuanced decision-making, is vital in caregiving. Human caregivers are able to establish genuine connections, adjust to each person's unique needs, and offer comprehensive support that transcends mere data. This human interaction promotes confidence, comfort, and reassurance, which are important factors in fostering a sense of well-being and facilitating the process of recovery [17]. AI systems in healthcare are primarily designed to optimize processes, reduce dosage errors, manage medication, and make preliminary diagnoses [18]. For example, AI algorithms can evaluate extensive quantities of patient data to detect trends, forecast illness outbreaks, and provide recommendations for treatment. These capabilities can significantly improve the efficiency of healthcare delivery [10], allowing providers to make more informed decisions in a shorter amount of time. As healthcare providers increasingly rely on AI to guide their decisions, there is a growing concern that the humanistic essence of medicine, including empathy and cultural understanding, risks being dampened by AI's efficiency, leading to a more transactional experience for patients [19]. In such encounters, the main focus of the patient and provider engagement is on exchanging information and completing specific tasks rather than establishing a connection or understanding the patient's circumstance. Hence, patients are less likely to engage openly in their care, potentially leading to poorer health outcomes. AI's reliance on algorithms and mathematical calculations can lead individuals to feel dehumanized as if they are being reduced to mere statistical figures [20,21]. Moreover, the emphasis on efficiency in AI systems carries the risk of reinforcing or even amplifying biases present either in the data on which they are trained or those introduced by the developers, reproducing racial and gender disparities [22]. For example, suppose an AI system is trained on data that underrepresents certain minority groups; in that case, it may be less effective at diagnosing conditions or recommending treatments for patients from those groups. This can result in judgments that, while

computationally efficient, may lack fairness, particularly towards marginalized groups, further increasing health disparities.

Comparison with Existing Literature

Our findings regarding the potential dehumanizing effects of artificial intelligence (AI) in healthcare align with several recent studies that address similar concerns. For instance, Shuaib A. (2024) emphasizes the dual potential of AI to either restore or further erode the doctor-patient relationship. While AI can enhance efficiency and provide more time for patient care, there is a significant risk that the overreliance on AI could lead to a more transactional approach to healthcare, diminishing empathy and personalized care. This resonates with our findings that stress the need for AI systems that support, rather than replace, the human aspects of patient care [12].

Similarly, a study by Ayers et al. (2024) argues for patient-first regulation of AI in healthcare to ensure that patient outcomes and autonomy are prioritized [23]. This aligns with our conclusion that the development of AI systems must consider ethical implications and the preservation of trust between patients and healthcare providers. Additionally, the study by Morrow et al. (2023) highlights the tension between efficiency and empathy in AI-driven healthcare, further supporting our assertion that maintaining empathetic interactions is crucial for patient well-being [24], even as AI becomes more integrated into clinical practice. Notably, our results resonate with a 2024 study from the University of California, San Diego, and Tai-Seale et al. (2024) which found that AI tools can enhance communication between physicians and patients by generating more empathetic and detailed responses [25]. However, this benefit comes with a caveat, as the study also noted that while AI can help reduce cognitive load on physicians, it did not reduce the time spent on patient communication, highlighting the limitations of AI in addressing the human elements of care.

Further comparison can be drawn with a study published by the World Economic Forum, which emphasizes the need for a balanced approach to AI integration in healthcare [26]. This perspective supports our findings that while AI has revolutionary potential, it must be deployed with caution to avoid eroding the essential elements of patient-centered care, such as empathy and trust. The study suggests an industry-wide framework for AI implementation that prioritizes patient well-being, aligning with our argument for preserving the human aspects of healthcare amidst technological advancements. Also interestingly, research highlighted by *Frontiers in Medicine* explores how AI may alter the dynamics of doctor-patient interactions, particularly when patients rely heavily on AI-generated medical opinions [27]. This shift could strain traditional relationships if not managed collaboratively, further underscoring our study's call for the development of AI systems that enhance rather than undermine these relationships.

Implications and Way Forward

The implications of this work for practice are profound, particularly in the context of integrating artificial intelligence (AI) into healthcare without compromising the quality of patient care. As AI continues to play an increasingly significant role in diagnostics, decision-making, and patient management, healthcare providers must adopt strategies that ensure AI enhances rather than diminishes the doctor-patient relationship. This involves prioritizing the development and use of AI systems that support clinicians by reducing their cognitive load and improving communication with patients, rather than replacing human interactions. Additionally, healthcare institutions must commit to training their staff on the effective use of AI tools, ensuring that these technologies are used to complement rather than supplant the compassionate and empathetic aspects of care. The potential for dehumanization can be minimized by creating a collaborative environment where AI serves as an adjunct to human expertise, ultimately leading to better patient outcomes and preserving the trust and connection that are essential to effective

medical practice.

To reduce the dehumanization associated with the integration of artificial intelligence (AI) in healthcare, it is essential to focus on designing AI systems that enhance rather than replace the human aspects of patient care. One approach is to develop AI tools that assist physicians in their communication with patients, ensuring that interactions remain personalized and empathetic. This could involve AI systems that draft compassionate responses or provide insights that support rather than dominate clinical decisions. Additionally, improving the transparency of AI decision-making processes is crucial. When patients and healthcare providers understand how AI arrives at its recommendations, it helps maintain trust and creates a collaborative environment where AI serves as an aid to human expertise rather than a replacement.

Furthermore, addressing inherent biases in AI systems is vital to ensuring equitable care. AI should be trained on diverse datasets that represent various populations to prevent the reinforcement of existing health disparities. Reducing these biases helps ensure that AI recommendations are fair and beneficial to all patients, regardless of their background. Lastly, promoting a collaborative approach to decision-making, where AI supports but does not override the clinical judgment of healthcare providers, can preserve the humanistic elements of care. By balancing the technological advantages of AI with the irreplaceable value of human connection and empathy, healthcare systems can effectively integrate AI while minimizing the risk of dehumanization.

Conclusion

In conclusion, while artificial intelligence (AI) has the potential to revolutionize healthcare by improving efficiency, accuracy, and cost-effectiveness, its growing integration into patient care presents significant challenges. The reliance on AI in healthcare risks eroding the essential human elements of the doctor-patient relationship, such as empathy, trust, and personalized care. These interpersonal interactions are fundamental to effective patient care and recovery. As AI systems take on a greater role in diagnostics, decision-making, and patient management, there is a pressing need to address these concerns through research and the development of AI systems that enhance rather than diminish the doctor-patient connection. Balancing the technological advancements with the preservation of compassionate care is crucial for the future of healthcare.

Funding Statement

No funding was gotten for this research project.

Authors Contribution Statement

Adewunmi Akingbola conceptualized the Letter and wrote the Conclusion, Timilehin, Ayotomiwa Idris and Olajumoke Adewole wrote the body, Abiodun Adegbesan edited the manuscript.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability

Research study didn't use data.

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