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Letter to Editor

The AI Fever: Can Artificial Intelligence Replace Compassionate Human Care?

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Dear Editor,

As healthcare professionals and educators, we have seen compassion as the backbone of quality of care. We vividly remember moments at patients' bedsides, where a gentle touch or a few calm words carried more weight than any medical treatment. These experiences remind us that healing is rooted in human connections as much as clinical skill.

Compassion is a fundamental principle of healthcare, emphasized in ethical codes, care standards, and policy documents. It plays a unique role in delivering high-quality treatment and serves as the foundation of human interactions in nursing.[1] Crawford et al define compassion as sensitivity to others' suffering, prompting verbal, non-verbal, or physical responses that help ease suffering.[2] Zamanzadeh et al describe compassionate care as empathetic connection and active efforts to address patient concerns.[3]

Holistic human connection, marked by attention to details and emotions and supportive care, is integral to positive healthcare experiences. The rise of advanced technologies such as artificial intelligence (AI) has increased concerns about whether human aspects of care might be replaced.[4] Today, AI can analyze huge amounts of data in real time, assisting in disease identification, early diagnosis, and personalized treatment planning, and facilitating clinical decision-making.[5] Advancements in AI have enhanced healthcare efficiency and accuracy. In nursing, AI can automate repetitive time-consuming tasks, such as recording patient data. As a result, it can help solve the problem of nursing shortages.[6] Additionally, AI supports clinical practice by automating routine tasks and providing decision-support tools for healthcare providers.[5,6] However, in dynamic and complex human interactions, AI faces considerable limitations due to its inability to establish emotional connections, comprehend feelings, and provide the human touch essential for empathy and compassionate care.[4,6]

AI has increasingly, and sometimes uncontrollably, infiltrated various aspects of our lives, particularly in medical sciences.[7] Despite its advantages, AI presents critical challenges and limitations for healthcare systems and nursing care. A critical issue is AI's inability to comprehend and express human emotions or provide compassionate care to patients.[8] We tested AI systems by asking about emotions and their typical responses indicated that *"As an artificial intelligence, I do not experience human emotions like love, fear, or affection. However, I can discuss these emotions or help you understand them better."* While technically accurate, these responses feel emotionally hollow, underscoring the limitations of AI in replicating authentic emotional resonance that human caregivers bring to their roles. Even as AI continues to evolve, it lacks lived experiences, moral intuition, and empathetic depth - important components of human-to-human connection and compassionate care. While AI may support clinical decision-making and promote efficiency, it should not and cannot replace the relational essence at the heart of nursing.

AI's fundamental deficiencies in emotional intelligence, empathy, and the ability to form meaningful human connections raises an important question: How can compassionate care be preserved while integrating AI into healthcare?

AI uses algorithms to analyze data but often overlooks individuals' emotional needs.[8] Compassion, a core aspect

of nursing, cannot be fully addressed by these algorithms. While AI has significantly enhanced healthcare efficiency, its inherent "black box" nature, where reasoning behind decisions remains opaque[5] presents challenges. Many AI algorithms lack transparency in their decision-making processes, which, combined with risks stemming from imbalanced training data, can lead to bias and underrepresentation of certain patient groups.[9] AI systems are only as good as the data they are trained on. In our experience, AI also tends to overrepresent data, often presenting incorrect or misleading information in a way that sounds confident, polished, and convincing. This limitation points to the importance of critical thinking when evaluating AI data, especially in healthcare where accuracy is essential. These issues may undermine trust in AI-driven healthcare solutions. Patient trust in healthcare systems relies on human interactions, transparent decision-making, and personalized care. While AI excels in precise data analysis, it cannot replace these essential aspects of care. Dissatisfaction and skepticism is especially likely in situations that require empathy and emotional understanding.[8] Therefore, there is a growing need for greater oversight and transparency in how AI is developed and applied in healthcare so human aspects of care remain central.

To ensure ethical deployment of AI in healthcare, several policy frameworks and governance models emphasize human-centered care principles. For instance, the European Commission[10] outlines seven recommendations, including human agency and oversight, technical robustness and safety, privacy and data governance, transparency, diversity and non-discrimination, environmental well-being, and accountability. These principles can guide AI deployment in a way that upholds dignity, trust, and empathy in clinical contexts.[10] Similarly, the World Health Organization (WHO) endorses AI principles that prioritize human well-being and protect equity. In their 2023 report, WHO stresses that AI systems must be used to enhance, not replace, the relational aspects of healthcare.[11] It also calls for governments and healthcare institutions to establish interdisciplinary ethics committees to protect patient safety, ensure informed consent, and maintain transparency. Several healthcare systems are adopting AI-specific ethical frameworks. For example, the UK's NHS AI Lab issued policies to embed compassion and patient voice into AI development through participatory design and inclusive testing. These frameworks signal a growing global commitment to ethical alignment of AI with core values of compassionate, human-centered care.

Therefore, we recommend using AI as a complement to, not a replacement for, human caregiving. Combining AI's analytical strengths with nurses' compassion can enhance quality of patient care.[6] For instance, AI can help train healthcare personnel in compassionate care through co-designing educational scenarios and simulations.[12] Additionally, AI-powered chatbots like *Woebot*, may offer continuous empathy and mental healthcare support to users navigating mental distress, including outside traditional clinical hours.[13] Similarly, robotic companions like *Paro*, used in geriatric care, reduce loneliness, and promote social interaction, key components of compassionate care.[14,15] These examples illustrate how thoughtfully implemented AI can augment human caregiving, supporting human-AI collaboration in compassionate healthcare.[16]

Another promising use of AI lies in its potential to strengthen healthcare professionals' emotional resilience. AI-based training environments are increasingly used to enhance both clinical and emotional competence. For example, immersive virtual reality enables healthcare workers to experience care from the patient's perspective, fostering emotional awareness and reducing empathy fatigue through reflective practice and cognitive empathy.[17]

Furthermore, AI-powered virtual patients and conversational avatars offer healthcare trainees the opportunity to repeatedly practice emotionally charged encounters, such as delivering bad news or responding to patient distress. These tools help build compassionate responses and provide instant feedback, allowing professionals to fine-tune their tone, language, and body language without fear of judgment.[12] These safe, adaptive, and engaging environments help bridge critical gaps in preparedness.

Compassionate human care goes beyond merely providing medical and nursing services; it involves establishing meaningful connections and deeply understanding patients' needs. Despite its advanced capabilities, AI cannot fully replace these essential human aspects. Thus, AI integration must be approached with caution, ensuring adequate evaluation and training. This way, AI can serve as a tool to enhance the quality of care rather than a potential threat.

As technologies like emotion-aware AI, sentiment analysis, and affective computing advance, their potential to support emotionally intelligent systems grows rapidly. These innovations aim to detect, interpret, and respond to subtle human emotional cues, creating new possibilities for digitally mediated empathy in clinical interactions.[18] Importantly, studies indicate that patients generally welcome AI-integration when they are transparently presented and used to enhance rather than replace human caregiving. Patients particularly value AI for its potential to increase access, reduce errors, and assist in monitoring, while still expecting human presence in emotionally sensitive moments.[16] This observation highlights the need for a collaborative human-AI approach, designed with patient-centered values at its core.

In light of these concerns, several practical strategies should be considered to ensure the ethical and effective integration of AI in healthcare. Interdisciplinary training programs can prepare healthcare professionals to work collaboratively with AI tools, while preserving core values

of empathy and patient-centeredness. Regulatory bodies and hospitals should adopt clear guidelines that prioritize compassionate outcomes when implementing AI-driven systems. Ongoing feedback from patients and frontline healthcare workers must also be integrated into the design and evaluation of AI technologies to ensure alignment with real-world human needs. These steps can help operationalize the complementary role of AI in ways that reinforce rather than undermine human-centered care.

Looking ahead, further efforts are needed to deepen our understanding of how AI can ethically and effectively support compassionate care. Future research should investigate long-term emotional impacts of AI-assisted care on both patients and providers, and assess how technologies like affective computing can be designed to better simulate emotional responsiveness. Given AI's rapid evolution, studies must include clear descriptions of specific technologies, their functionality, and usability. On the policy level, healthcare systems should prioritize inclusive governance frameworks that allow patients, clinicians, and ethicists to collaboratively shape AI development. Finally, pilot programs integrating AI into compassionate care training could provide practical evidence on best practices. These directions will be key to ensuring that AI not only enhances efficiency but also reinforces human values at the heart of healthcare.

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