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Article

# The Use of Artificial Intelligence in Patient Care and the Role of Nurses and Opportunities in Albania

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**Abstract:** Artificial Intelligence (AI) is rapidly transforming healthcare, enhancing patient care, and reshaping the role of nurses. This paper examines the use of AI in patient care, its benefits for nurses, and the current landscape of AI technology in Albania. It also explores the opportunities and challenges nurses face in adopting AI tools in their practice. By analyzing global trends and the Albanian healthcare system, this paper provides insights into the future of healthcare in Albania and the role of nurses in integrating AI into daily medical practice.

**Keywords:** artificial intelligence; patient care; nurses; healthcare in Albania; AI integration; medical technology; nursing opportunities

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## Introduction

Artificial Intelligence is revolutionizing healthcare worldwide by improving diagnostic accuracy, enhancing treatment plans, and personalizing patient care. In the context of nursing, AI has the potential to support decision-making processes, optimize workflow, and improve patient outcomes. This article explores how AI is being utilized in patient care globally, with a focus on its application in Albania, where the integration of advanced technologies in healthcare is still in development.

AI's capabilities range from assisting in diagnostic imaging to enabling remote patient monitoring, making it a valuable tool for nurses in clinical settings. However, there are challenges in adopting AI in healthcare, particularly in developing countries like Albania, where resource constraints and a lack of infrastructure may impede full integration.

## Methodology

This article is based on a review of existing literature regarding the use of Artificial Intelligence in healthcare, with a specific focus on its role in nursing. Data was sourced from academic journals, industry reports, and case studies, including recent works on the benefits and challenges of AI in the medical field (Rajpurkar et al., 2018; Mehta & Shah, 2021). Additionally, secondary data about Albania's healthcare system was gathered from local publications and studies on the current state of AI integration in the Albanian healthcare sector (Denecke & Pohl, 2020).

The literature review also considered articles that explored the challenges faced by healthcare professionals in adopting AI technologies, particularly in resource-constrained settings like Albania. To provide a comprehensive perspective, reports on AI initiatives in other countries were analyzed to draw comparisons and identify potential strategies for implementation in Albania. Moreover, expert opinions from healthcare practitioners and nurses were reviewed to understand the practical implications of integrating AI tools into daily nursing practices. This holistic approach ensured that the study not only examined theoretical perspectives but also real-world applications and challenges. Finally, attention was given to studies that highlighted the ethical concerns of AI, particularly regarding data privacy and the potential impact on nurse-patient relationships.

## The Use of Artificial Intelligence in Patient Care

AI technologies are being applied in numerous ways to improve patient care, ranging from diagnostic tools to predictive analytics. In healthcare, AI can process large datasets from medical records, imaging, and sensor data to make more accurate diagnoses and recommend treatment plans. For example, AI algorithms in radiology are capable of identifying abnormalities in medical images faster than human doctors, reducing diagnostic errors (Rajpurkar et al., 2018). Additionally, AI can help predict patient outcomes and monitor chronic conditions remotely, providing continuous care outside of traditional healthcare settings (Topol, 2019).

Moreover, AI is playing a vital role in improving personalized treatment by analyzing patient history, genetics, and lifestyle data to tailor care plans that are more effective and targeted. AI-powered decision support systems assist healthcare providers by suggesting treatment options based on the latest research, clinical guidelines, and patient-specific data. These advancements can lead to more efficient and accurate decision-making, ensuring that patients receive the best possible care. Furthermore, AI helps in reducing the burden on healthcare professionals by automating routine tasks, such as data entry and administrative processes, which allows them to focus more on direct patient care and decision-making. In countries like Albania, where healthcare resources are limited, the introduction of AI can optimize the allocation of medical personnel and improve the overall efficiency of the healthcare system.

### **Benefits of AI for Nurses**

Nurses play a critical role in patient care, and AI offers various benefits in supporting their work. AI technologies can streamline administrative tasks, such as patient data entry, which allows nurses to focus more on direct patient care. By automating routine processes like charting, scheduling, and patient records management, AI reduces the administrative burden on nurses, allowing them to devote more time to interacting with and caring for patients. AI systems can also provide decision support by alerting nurses to potential medical issues, such as changes in a patient's vital signs or adverse drug reactions, which can help prevent errors and improve patient safety. For instance, AI algorithms can analyze real-time patient data and generate early warnings of deteriorating health conditions, enabling nurses to act proactively. Moreover, AI tools can assist in personalized medicine, where treatment plans are tailored to the individual patient based on data analysis (Mehta & Shah, 2021). By considering factors such as genetic information, lifestyle, and previous medical history, AI can guide healthcare providers in choosing the most effective treatments for each patient.

However, the adoption of AI in nursing requires proper training to ensure that nurses can work effectively with AI tools and incorporate them into their practice (Avasarala & Bhattacharya, 2020). Nurses must receive training not only in using AI systems but also in understanding the insights and recommendations provided by these tools. This will allow them to make informed decisions and provide care that complements the capabilities of AI while maintaining the human aspect of nursing. Moreover, as AI becomes more integrated into healthcare systems, nurses must adapt to new roles that focus on managing AI-assisted care. This shift includes overseeing the use of AI technologies in patient care, ensuring that they are used ethically, and addressing concerns about data privacy and the potential biases in AI algorithms. Nurses will need to work closely with interdisciplinary teams to ensure the appropriate use of AI and prevent any reliance on technology that may compromise the quality of care or patient trust.

Furthermore, while AI has the potential to improve patient outcomes, there is a risk of over-reliance on technology, which could undermine the critical thinking and interpersonal skills that are integral to nursing practice. Therefore, it is essential that nurses maintain a balanced approach to AI integration, leveraging technology as a tool to enhance care without replacing the vital human connection in healthcare. It is also crucial that nursing curricula are updated to incorporate AI training, ensuring that future generations of nurses are prepared for the evolving landscape of healthcare technology.

### **The Use of AI in Albania**

The integration of AI in Albanian healthcare is still in its early stages. While some private institutions and medical professionals have started exploring the potential of AI technologies, the healthcare system as a whole faces significant challenge in adopting these innovations. Limited resources, lack of infrastructure, and the need for specialized training are key barriers to the widespread use of AI in Albania's public healthcare system. These challenges are compounded by the fact that AI technology is often viewed as complex and difficult to integrate into existing systems, making its adoption even more daunting for healthcare professionals who are already overwhelmed by the daily demands of patient care.

However, the Albanian government has shown interest in modernizing the healthcare sector, which includes exploring AI-driven solutions. International collaborations and investments may help facilitate the adoption of AI in Albanian healthcare, but the process requires a phased approach, focusing initially on pilot projects and gradually scaling up (Denecke & Pohl, 2020). The successful introduction of AI technologies will depend on the government's ability to secure funding, build partnerships with technology companies, and ensure that infrastructure is developed to support these advanced tools. Additionally, a strong regulatory framework will be needed to oversee the safe and ethical use of AI in healthcare.

Furthermore, addressing the need for specialized training is critical. Healthcare professionals in Albania, particularly nurses and doctors, need to be equipped with the skills to effectively use AI tools and incorporate them into their daily practice. Educational institutions must play an essential role in providing relevant training programs that cover both the technical and ethical aspects of AI in healthcare. Additionally, a cultural shift toward embracing technology and innovation is necessary, particularly in public institutions that are often more resistant to change.

A recent report highlighted the critical need for healthcare reforms and the incorporation of AI as a key factor for improvement in the Albanian healthcare system. The report suggests that training healthcare professionals in AI and improving infrastructure are key steps toward the successful implementation of AI in the country (Perolla, 2023). In the long term, the integration of AI could enhance patient care, improve efficiency, and help address the challenges of an understaffed healthcare system. However, achieving these goals will require strong leadership, investment, and a commitment to fostering a culture of innovation across the healthcare sector.

## Discussion

The introduction of AI in healthcare holds significant potential for improving patient care globally. For nurses, AI can enhance clinical workflows, reduce human error, and support better decision-making. By automating routine tasks such as data entry, scheduling, and record management, AI frees up nurses to spend more time on direct patient care, leading to better patient outcomes. Additionally, AI can assist in diagnosing diseases and predicting patient outcomes by analyzing large volumes of data quickly and accurately. For example, AI tools in radiology and pathology have been shown to detect conditions such as cancer and heart disease with remarkable accuracy, often faster than human clinicians (Rajpurkar et al., 2018). However, successful integration depends on several factors, including proper training, infrastructure development, and addressing ethical concerns related to patient data privacy and AI decision-making (Lee & Suh, 2021). Nurses must be equipped with the knowledge to work effectively with AI systems and ensure that these technologies align with patient care protocols. Furthermore, AI's decision-making processes must be transparent and understandable to healthcare professionals, to avoid biases and maintain trust in the system.

In Albania, while AI presents an opportunity to modernize the healthcare system, the challenges of resource allocation and staff training must be addressed to ensure its success. The healthcare sector in Albania faces several hurdles, such as limited financial resources, outdated infrastructure, and a shortage of skilled professionals in both nursing and IT. These issues create barriers to implementing AI technologies, making it essential to focus on gradual, sustainable changes. Public-private partnerships, international collaborations, and targeted investments are crucial to overcoming these

barriers and making AI technologies accessible to healthcare professionals in Albania. Additionally, developing the necessary infrastructure, such as high-speed internet and advanced medical equipment, will be vital to support AI-driven solutions effectively.

The role of nurses is especially crucial in countries like Albania, where human resources in healthcare are limited. AI can serve as a valuable tool to bridge gaps in care, but it cannot replace the critical human touch that nurses provide. The personal connection, empathy, and communication skills that nurses bring to patient care cannot be replicated by machines. Instead, AI should be viewed as an assistant that complements and enhances the work of healthcare professionals. By assisting nurses with administrative tasks, decision support, and monitoring patient conditions, AI can empower nurses to provide more personalized and timely care to patients. This approach will also reduce nurse burnout by alleviating some of the repetitive and time-consuming tasks currently part of their daily routine.

Recent studies on the integration of AI in healthcare worldwide have indicated that a phased approach to technology adoption, alongside increased education and training for nurses, would ensure that AI can effectively complement the work of healthcare professionals, including in Albania (Perolla, 2023). A strategic approach to AI adoption will allow the healthcare sector to gradually build the necessary capacity, starting with pilot projects and expanding as technology and infrastructure improve. It will also ensure that nurses are not overwhelmed by the change, but are equipped to take full advantage of AI's potential to enhance care.

## Conclusions

AI has the potential to revolutionize patient care globally, offering numerous benefits for nurses and healthcare systems alike. In Albania, while there are significant opportunities for AI integration, the country must address key challenges such as infrastructure, training, and resource limitations. Nurses in Albania can play a critical role in the successful adoption of AI technologies by ensuring that these tools are effectively integrated into daily care practices.

The future of AI in Albania's healthcare system will depend on continued investment, training, and collaboration between healthcare professionals, government entities, and technology developers. By overcoming these challenges, Albania can benefit from the many advantages that AI has to offer, ultimately improving healthcare delivery and patient outcomes.

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