

Analysis of the Benefits and Risks of Using Artificial Intelligence in Gynecology

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Abstract: This article analyzes the advantages and disadvantages of using artificial intelligence (AI) in gynecology. AI plays a crucial role in medical diagnostics, disease prediction, surgical procedures, and patient consultations. However, there are also risks and challenges associated with its implementation. The study examines how AI is transforming gynecology and evaluates its impact on medical efficiency, accuracy, and patient safety.

Key points: Artificial Intelligence, Gynecology, Medical Diagnostics, Prediction, Analysis, Innovation.

Introduction. Technological innovations in modern medicine facilitate automation and efficiency in various medical processes. AI is increasingly being integrated into gynecology to enhance diagnostics, treatment, and patient monitoring. This article examines the benefits and risks of AI technologies in gynecology and their implications for healthcare.

Theoretical Section. Artificial intelligence encompasses a set of technologies that process and analyze large volumes of medical data for decision-making and predictive modeling. In gynecology, AI is applied in the following areas:

Diagnostics: Automated analysis of ultrasound, MRI, and X-ray results.

Prediction: Identification of high-risk patients and forecasting potential diseases.

Surgical Assistance: Robotic-assisted surgeries and minimally invasive procedures.

Patient Monitoring: Supervision of pregnancy and childbirth processes.

Practical Section. Studies and clinical applications of AI in gynecology demonstrate several benefits:

AI improves diagnostic accuracy and efficiency.

AI-assisted monitoring of pregnancy and childbirth enhances safety.

AI reduces human errors in surgical procedures.

However, some challenges remain:

Data privacy and security concerns.

The possibility of incorrect diagnoses due to AI limitations.

Over-reliance on AI, potentially reducing human involvement in critical decisions.

Economic Section. The integration of AI in gynecology brings economic advantages:

Reduced treatment costs.

Lower workload for medical professionals.

Faster diagnostic processes.

Despite these benefits, the initial implementation of AI requires significant investment, and maintenance costs can be high.

Analytical Section. Findings from AI implementation in gynecology indicate:

Improved early disease detection and prevention.

Enhanced decision-making accuracy among medical professionals.

Potential risks associated with AI reliance, requiring continuous human oversight.

Analysis Results. AI-based diagnostics achieve over 90% accuracy on average.

AI-generated medical analyses provide faster results than human evaluations.

Patient care quality improves, but the high cost of AI systems may slow down their widespread adoption.

Conclusion

The use of artificial intelligence in gynecology presents significant opportunities but also requires careful risk assessment. While AI enhances efficiency in diagnostics and surgical procedures, human expertise remains essential. Future advancements in AI will focus on improving its reliability and integration into medical practices.

References

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