

What is the future of artificial intelligence in obstetrics? A qualitative study among healthcare professionals

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Abstract

Objective This work explores the perceptions of obstetric clinicians about Artificial Intelligence (AI) in order to bridge the gap in uptake of AI between research and medical practice. Identifying potential areas where AI can contribute to clinical practice, enables AI research to align with the needs of clinicians and ultimately patients. **Design** Qualitative interview study. **Setting** A national study conducted in the Netherlands. **Sample** Dutch clinicians working in obstetrics with varying relevant work experience, gender, and age. **Methods** Thematic analysis of qualitative interview transcripts. **Results** Thirteen gynaecologists were interviewed about hypothetical scenarios of an implemented AI model. Thematic analysis identified two major themes: perceived usefulness and trust. Usefulness involved AI extending human brain capacity in complex pattern recognition and information processing, reducing contextual influence, and saving time. Trust required validation, explainability and successful personal experience. This result shows two paradoxes: firstly, AI is expected to provide added value by surpassing human capabilities, yet also a need to understand the parameters and their influence on predictions for trust and adoption was expressed. Secondly, participants recognised the value of incorporating numerous parameters into a model, but they also believed that certain contextual factors should only be considered by humans, as it would be undesirable for AI models to utilize that information. **Conclusions** Obstetricians' opinions on the potential value of AI highlight the need for clinician-AI researcher collaboration. Trust can be built through conventional means like RCTs and guidelines. Holistic impact metrics, such as changes in workflow, not just clinical outcomes, should guide AI model development. Further research is needed for evaluating evolving AI systems beyond traditional validation methods.

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