

WomenCare 2025: Advancements in Women's Healthcare, Nursing, and Midwifery

Conference Proceedings

September 22, 2025 - Singapore

AI in Women Healthcare

Richa Goyal

CEO and Co-Founder, Dual Sphere Consulting, Singapore

Abstract

Artificial Intelligence (AI) is revolutionizing women's healthcare by offering advanced solutions for diagnosis, treatment, and access to care. Women's health presents unique challenges such as reproductive disorders, hormonal imbalances, and higher risks for chronic diseases like osteoporosis and autoimmune conditions. AI-powered tools now support early detection and risk prediction for these conditions. For example, machine learning algorithms used in breast and cervical cancer screening improve accuracy and reduce false positives, while deep learning models can process vast imaging and clinical datasets to find hidden patterns overlooked by traditional methods. In reproductive health, AI assists with monitoring menstrual cycles, fertility prediction, and management of pregnancy risks through wearables and mobile health platforms [1-5].

Moreover, AI-driven chatbots and telemedicine platforms are expanding access to medical advice, especially in underserved areas where women encounter barriers to specialist care. Predictive analytics also aids physicians in identifying women at risk for maternal complications like preeclampsia or gestational diabetes. AI's ability to personalize care by integrating genetic, behavioral, and environmental factors enables better treatment plans and targeted drug discovery. Crucially, AI is helping to bridge data gaps exposed by the historical underrepresentation of women in clinical trials, thereby supporting health equity and more inclusive research. However, issues related to data privacy, algorithmic bias, and equitable access need ongoing attention to maximize benefits. Overall, AI holds significant promise for making women's health care more precise, accessible, and equitable [6-13].

References

1. <https://binariks.com/blog/ai-in-womens-healthcare/>
2. <https://www.nature.com/articles/s41746-022-00559-z>
3. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8963491/>
4. <https://www.bcrf.org/blog/ai-breast-cancer-detection-screening/>
5. <https://www.alcimed.com/en/insights/ai-women-health/>
6. <https://www.nsf.gov/science-matters/harnessing-ai-bridge-gaps-womens-health-care>
7. <https://pmc.ncbi.nlm.nih.gov/articles/PMC12053047/>
8. <https://www.health.harvard.edu/womens-health/ais-promise-for-womens-health>
9. <https://www.nyas.org/ideas-insights/blog/womens-health-2-0-the-ai-era/>
10. <https://pmc.ncbi.nlm.nih.gov/articles/PMC10889757/>
11. <https://healthinnovation-kss.com/making-ai-in-healthcare-work-for-women-new-reports/>
12. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11980523/>
13. <https://www.cancer.gov/research/infrastructure/artificial-intelligence>