



Role Of Artificial Intelligence In Prasuti Tantra Stree Roga – An Emerging Concept

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Abstract: Artificial intelligence is rapidly transforming in healthcare system by enhancing data analysis, clinical documentation, risk prediction and individualised care. The recent advancements of medical science support the contemporary emerging role of the Programmed AI which gradually becoming tool for healthcare provider by entering every clinic and hospital. *Ayurveda*, particularly the specialized clinical branches of *Prasuti Tantra* and *Stree Roga*, is inherently individualized, preventive, and holistic in its approach. These dynamics make it conceptually compatible with AI-based supportive technologies. This conceptual article explores the potential role of AI as an auxiliary clinical and academic tool in Ayurvedic obstetrics and gynaecology. It highlights its applications in domains of *Stree roga* such as *Yonivyapath* understanding, *Artava dushti* assessment and *Vandhyatwa* management, clinical documentation, research and medical education. Emphasis is placed on ethical integration, ensuring AI functions as a *Upakarana* (instrument) rather than substitute for Ayurvedic clinical judgement and *Yukti*. This article concludes that judicious use of AI can strengthen the field, improve efficiency and enhance patient-centered practice while preserving the core siddhantas of Ayurveda.

IndexTerms - Artificial Intelligence, Prasuti Tantra, Stree Roga

I. INTRODUCTION

INTRODUCTION

Prasuti Tantra and Stree Roga is the branch of Ayurveda dealing with Yoni Roga, Artava Dushti, Garbha, preconceptional care, antenatal care, labor, puerperium, and related disorders. Although not explicitly mentioned as a separate branch in the *Brihatrayees*, its principles are deeply embedded in Bala Roga and Kaumarabhritya. Traditionally, the focus was on achieving *Supraja*; however, with evolving disease patterns and lifestyle-related disorders, the scope has expanded to comprehensive women's healthcare.

In recent decades, factors such as stress, sedentary lifestyle, irregular diet, delayed marriage, and delayed conception have led to increased prevalence of PCOD, menstrual disorders, infertility, and endometriosis. Many of these conditions lack definitive solutions in modern medicine, leading to renewed interest in the holistic, root-cause-based approach of Prasuti Tantra and Stree Roga. Contemporary patients increasingly seek individualized and preventive care, creating the need for supportive tools that can systematize Ayurvedic practice without disturbing its core siddhantas. AI emerges as one such promising *Upakarana*.¹

UNDERSTANDING ARTIFICIAL INTELLIGENCE IN HEALTHCARE ²

Artificial Intelligence refers to computer systems capable of performing tasks such as pattern recognition, data analysis, prediction, and decision support. In healthcare, AI primarily functions as a supportive clinical tool rather than a replacement for physicians. In Ayurveda, AI may be viewed as an *Upakarana* assisting the *Vaidya* in organizing complex clinical data, identifying patterns over time, and supporting individualized and preventive care.

GAP IN THE CURRENT APPROACH ³

Despite a strong theoretical foundation, current practice of Prasuti Tantra and Stree Roga faces challenges such as non-standardized documentation, subjective interpretation of *Nidana-Samprapti*, inter-practitioner variability, and limited longitudinal outcome analysis. High patient load and time constraints often restrict detailed assessment of *Samprapti Ghatakas*. These limitations highlight the need for a supportive system that enables structured, reproducible, and evidence-oriented clinical understanding.

CONCEPTUAL COMPATIBILITY OF AI WITH AYURVEDA ⁴

In classics, *Pramanas* such as *Pratyaksha*, *Anumana*, *Aptopadesha*, and *Yukti* were employed to obtain *Prama* (true knowledge). These tools have been used since ancient times in disease diagnosis and treatment and can be considered structured cognitive systems of traditional practice. In the present era, characterized by *Alpa Buddhi*, limited time, and increasing disease complexity, additional supportive tools are required. With advancements in technology, knowledge acquisition has expanded through visual, auditory, and analytical means. In this context, AI can be considered a modern tool assisting the process of obtaining *Prama* in Ayurveda.

AI APPLICATIONS IN PRASUTI TANTRA AND STREE ROGA^{5,6}**1. AI-Assisted Prakriti and Vikriti Assessment^{5,6}**

Every woman is influenced by *Prakriti*, *Vikriti*, *Desha*, *Kala*, and *Satmya*. AI can assist in correlating these factors with symptom clusters, Dosha dominance, and cyclic variations across large patient datasets. Female reproductive disorders are often multifactorial and cyclic, making manual pattern recognition difficult. AI-supported analysis helps document such variations systematically and provides data useful for clinical practice and research.

2. AI in Stree Roga

Artava Dushti and Yoni Vyapathas form a major share of gynaecological disorders. These conditions are influenced by Dosha combinations, Agni, Manas, and Ahara–Vihara. While classical texts provide detailed descriptions, subjective assessment limits standardization. AI can assist by analysing large symptom datasets, identifying Dosha patterns, tracking changes across cycles, and generating epidemiological data based on region, season, and lifestyle. This supports evidence-based practice while retaining clinical judgement.

3. AI in Stree Vandhyatwa

Stree Vandhyatwa is a multifactorial condition involving *Ritu*, *Kshetra*, *Beeja*, and *Ambu*, along with Dosha and Manasika factors. AI can support organization of longitudinal data, identification of hidden clinical patterns, monitoring treatment response, and prognostic assessment. AI does not replace treatment but assists the *Vaidya* in applying *Yukti* effectively.

4. AI in Prasuti Tantra

Although obstetrics is primarily skill-based, AI can function as a research-supportive tool in areas such as *Garbhini Paricharya*, *Prasava*, and *Sutika Paricharya*. Analysis of trimester-wise classical regimens of *Masanumasika garbhini paricharya* and maternal-fetal outcomes may help generate evidence for Ayurvedic obstetric principles. Ethical and medico-legal limitations currently restrict data generation, but future scope exists with appropriate regulatory frameworks.

DISCUSSION⁷

Artificial Intelligence presents significant potential as a supportive tool in Prasuti Tantra and Stree Roga; however, its implementation faces challenges such as lack of standardized datasets, subjective Dosha assessment, limited digitized records, technological constraints, and absence of Ayurveda-specific regulatory guidelines. Uncritical adoption may lead to reductionism, oversimplifying qualitative clinical wisdom into quantitative algorithms. Therefore, AI must be integrated gradually, guided by Ayurvedic *Siddhantas*, with the *Vaidya* retaining central authority in clinical decision-making.

CONCLUSION

Artificial Intelligence is a promising auxiliary tool in Prasuti Tantra and Stree Roga. Its ability to organize data, recognize patterns, support longitudinal analysis, and improve documentation addresses several practical limitations of current practice. With interdisciplinary research, standardized frameworks, and regulatory guidelines grounded in Ayurvedic *siddhantas*, ethics, and *Yukti*, AI can emerge as an effective companion in advancing Ayurvedic women's healthcare.

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