Ayurveda pulse monitoring and diagnostic systems: a systematic review

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The traditional pulse diagnostics of Ayurveda and its importance of medical heritage in India are explored in the present study. We discuss the challenges of traditional methods and show how integrating modern technologies like sensor-based systems and artificial intelligence can improve diagnostic precision and efficiency. This fusion aims to sustain and advance Ayurveda, aligning it with contemporary scientific standards. The review identifies research gaps and suggests future directions, emphasizing the need for standardized validation and integrated diagnostic systems. By examining current advancements and future possibilities, our work highlights the value of combining ancient wisdom with modern innovation for the global recognition and scientific validation of Ayurveda.

Keywords: Ayurveda, diagnostics, innovation, *Kapha*, *Pitta*, pulse, sensor, *Vata*.

intricate pulse analysis, also linking to practices like Sri Lankan Desheeya Cikitsa, Unani, Tibetan (Sowa Rigpa) and Japanese (Kampo) Medicine. It assesses arterial pressure via fingertip sensing to detect Tridosha imbalances, which often cause diseases. Rooted in ancient Ayurvedic philosophy, it incorporates the five elements – Prithvi, Teja, Vayu, Jala and Aakash – which shape the Tridosha (*Vata*, *Pitta* and *Kapha*) in varying combinations[6,7]. This balance of elemental forces supports Ayurveda's holistic diagnosis and treatment approach through Nadi Pariksha. While deeply rooted in ancient wisdom, it requires further scientific validation for modern healthcare integration. This survey reviews Ayurvedic pulse diagnosis literature, providing a comprehensive overview. Figure 1 shows the growing adoption of Ayurveda for disease diagnosis, reflected in increased research and practitioner reports over the past decade[8].